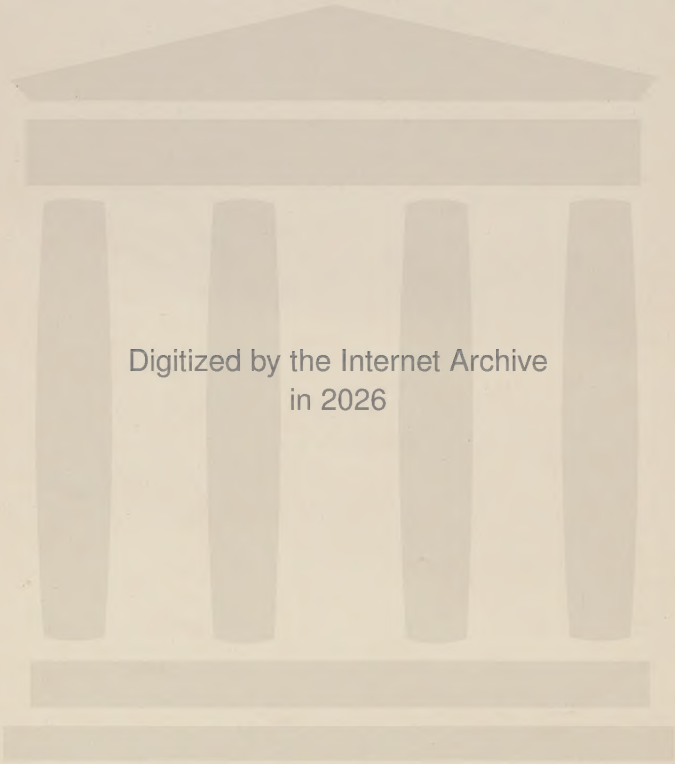

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PRINCIPLES
OF
ECONOMICS

BY

HENRY ROGERS SEAGER

Professor of Political Economy in Columbia University

SECOND EDITION, REVISED AND ENLARGED

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PREFACE

THE present work is the fourth edition of my *Introduction to Economics,* which was first published in 1904. I have changed the title to *Principles of Economics* to prevent the confusion of this book with my *Economics: Briefer Course,* which appeared in 1909, and to conform to the usage which has grown up of designating as *Principles* any treatise which covers the whole field of economics.

The purpose of the book is to introduce college classes to the study of the subject. This is, if I may repeat what was said in the preface to the first edition, " a task of no little difficulty. If lectures are depended upon exclusively, much time must be wasted in imparting information that could be acquired more quickly and more surely from the printed page. On the other hand, exclusive reliance on a text-book results in narrowness and dogmatism on the part of both teacher and student." The obvious escape from this dilemma is to combine the text-book and lecture methods, and it was to facilitate such a combination that the book was first written.

In revising it for this new edition I have done a good deal more than bring the information it contains up to date, important as this part of my task has been. I have rewritten several of the theoretical chapters and recast the explanations of the laws of value and distribution so as to anticipate difficulties and clear up possible misunderstandings. While continuing to describe the explanation of distribution presented as the " productivity theory," I have tried to make it perfectly clear that this phrase is intended merely to emphasize the intimate relation between distribution and production, which some economists have seemed to deny. An understanding of distribution requires constant attention to both sides of the value problem, the demand side and the supply side, and no theory, by whatever name it be called, can be complete which wavers in this attention or gives undue

prominence to one side to the neglect of the other. The presentation of economic theory which results from this revision will be found, I believe, both simpler and more accurate than in the previous editions.

With a view to harmonizing, so far as possible, the nomenclature of this book with that employed by other American economists, I have throughout substituted the phrase, "want gratification" for "want satisfaction" of the earlier editions, and "enterprisers" for "entrepreneurs." The first change is an undoubted improvement. I am not so confident as to the wisdom of the second, but have decided upon it on the ground that "enterpriser," notwithstanding that it is etymologically less elegant than "entrepreneur," has the great advantage of seeming like an English word and, therefore, a better chance of making its way into everyday speech.

The changes in the second half of the book, dealing with practical economic problems, have been even more extensive. The rearrangement and expansion of the material have resulted in four new chapters on the Reform of the Tax System of the United States, Profit Sharing and Labor Copartnership, Social Insurance, and Socialism, in place of the single chapter on Plans of Economic Reform in the previous edition. Not only in these new chapters but throughout I have tried to bring together the latest information in regard to new governmental policies in the economic field and their results.

The increased attention devoted to socialism reflects the increasing importance of that subject. No sincere, high-minded person can fail to be strongly attracted by the ideal which socialism presents. A reorganization of industrial society which promises to make the brotherhood of man something more than an empty phrase, which proposes to dispense with the wastes of competition and which undertakes so to exalt the functions of the state that the best capacity of the nation will be constantly in its service, merits not only the most careful but also the sympathetic consideration of economists. In the current literature in advocacy of socialism, the Marxian theories of value and interest still figure prominently, although they are no longer accepted by all socialists. It

has seemed worth while, therefore, to restate with special care and clearness the conclusive objections to the labor theory of value and its corollary, the exploitation explanation of interest. In doing so I have tried to bring out clearly the distinction between the so-called "scientific socialism" of Marx, at which my criticisms are directed, and socialism as a program of social reform.

Though this edition is perhaps more largely my own work, the fruit of my own thought and teaching experience, than earlier editions, it still owes much of its form and content to suggestions derived from other writers. I desire particularly to record my indebtedness to the writings and teachings of Professors J. B. Clark, S. N. Patten, Eugen von Böhm-Bawerk and Alfred Marshall. More concrete is my obligation to Professor R. C. McCrea, who suggested changes in the figure on page 190 and other improvements in Chapter XI. Greatest of all is my indebtedness to my wife, whose unflagging interest and patient criticisms have been an aid and encouragement at times when both were much needed.

PREFACE TO THE SECOND EDITION

THE reason for bringing out a new edition of this book at this time is the highly important legislation enacted by Congress since 1913, when it was last revised. The principal changes made are, therefore, the addition to chapters XX., XXII., XXV., and XXVII. of descriptions and discussions of the Federal Reserve Act, the Underwood Tariff Act, the Clayton and Trade Commission acts, and the Income Tax Act, resulting in an expansion of the text from 642 to 654 pages. For the rest, occasional changes in phrasing have been introduced and the statistical and other information presented has been brought up to date. The theoretical chapters remain unaltered and I have seen no reason to modify materially the conclusions reached in the chapters on practical problems.

HENRY R. SEAGER.

RIVERDALE, N. Y.,
January 15, 1917.

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PRINCIPLES OF ECONOMICS

CHAPTER I

RISE OF MODERN INDUSTRY IN ENGLAND

Definition of Economics.

§ 1. *Economics, or political economy, is the social science which treats of that portion of human activity which is concerned with making a living.* It deals, on the one hand, with man's wants and, on the other, with the goods (*i.e.*, the commodities and services) upon which the gratification of his wants depends. It analyzes wants, classifies goods with reference to them and considers all of the circumstances which affect the production and distribution, or sharing, of goods among the individuals who compose society. In discussing production and distribution economists treat the same problems that engage the attention of business men, but from a social rather than an individual point of view. It is to emphasize this distinction that economics is styled a "social science." A definition easy to remember is that *economics is the social science of business.*

Its Relation to Other Social Sciences: Sociology.

§ 2. Closely related to economics are the other social sciences —sociology, politics, law and history. By some writers sociology is made to include all of the social sciences, not excepting economics. Others define it as the science which treats of the beginnings of society and of the fundamental principles of social organization. Still a third group understands the term to include problems connected with society's treatment of its dependent classes. Whichever of these definitions be accepted, the relation of sociology to economics need cause no confusion. Economics has to do primarily with contemporary conditions and with the relations between independent, self-supporting individuals and families and the goods upon which their well-being depends.

Politics and Law.

Politics treats of the political organization of society, and law is the aggregate of rules and regulations through which formal expression is given to the social will. Neither is likely to be mistaken for economics, although both influence largely the business institutions and practices with which economics is concerned. The political organization determines what classes shall have a dominant influence in choosing the laws that are to be passed and enforced, and laws themselves establish standards to which all must conform. The solution of many of the practical economic problems which are discussed in later sections of this book will be found to hinge upon the repeal of old laws or the enactment of new ones.

History.

History, in the broadest sense, is the narrative of past events. To the economist, economic or industrial history, the narrative of past events touching relations between men and goods, is of special significance. In fact, a knowledge of the principal facts of modern industrial history is so necessary to an understanding of present economic phenomena that it has seemed wise to introduce this book with sketches of the Rise of Modern Industry in England, and of the Industrial Expansion of the United States.

The Manorial System.

§ 3. The earliest form of industrial organization of which we have full knowledge from English history is the " manorial " system. In existence before the Norman Conquest (1066), it was not entirely superseded until the sixteenth century. It, therefore, controlled English industrial activity for a greater number of years than any system which has since developed. To understand it clearly it is necessary to remember that during the period when it flourished international intercourse took the form of fighting more commonly than that of trading, that each country was economically self-sufficient or nearly so, and that in order to maintain itself each community was forced by its ignorance of efficient industrial processes to give nearly all of its time to providing for the gratification of its primary wants, for food, clothing and shelter. The manorial system was thus, on one side, a method of organizing the nation for military purposes and, on the other, a plan for securing the cultivation of the soil. It is the latter aspect which interests the economist.

The manorial system was at its height about the middle of the thirteenth century. At that time the whole cultivated portion of England was divided up into estates or "manors," averaging perhaps 5000 acres in extent. The actual work of tillage on these manors was performed for the most part by serfs or "villeins," whose position was, from our modern point of view, peculiar. The villein was not a slave, and yet he could not legally leave the place in which he was born nor neglect his customary work without the consent of the lord of the manor. On the other hand, although he did not own the allotment of land which he cultivated, he was entitled to it by immemorial usage and might appeal to the manorial court for redress if it was withheld from him. The method of tillage was even more remarkable. Instead of being divided up into a number of separate farms or allotments, each to be cultivated independently and continuously by the same tenant, the arable land of the manor was usually divided up into three great fields, hundreds of acres in extent, each one of which was planted with a single crop. The usual practice was to sow one field with wheat or rye, another with oats or barley, and to allow the third to lie fallow as a preparation for the heavy crop to be grown the following year. The ordinary allotment made to a villein was some thirty acres, assigned usually in half-acre or acre strips from different parts of the farm. By this plan the villein was enabled to participate in the different kinds of agriculture carried on in the different fields, while at the same time he received a share of the good as well as of the poor land. He paid for his allotment, not with money, but with labor, and the amount of labor was fixed by immemorial custom.

Its Characteristics.

The most important labor was "week-work," *i.e.*, work on the land which the lord retained for himself for two or three days each week throughout the year, and "boon-day" work or continuous work on the lord's land for one or two weeks during the plowing season and the season of harvest. In addition certain presents and special services were required of the villein at stated seasons.

§ 4. The manorial system, which flourished for hundreds of years on the Continent of Europe as well as in England, was

Contrasted with Modern System.

so different from anything now found in the Western World that a brief comparison of its chief features with present-day conditions will be suggestive. In the first place, fully nine-tenths of the population of England lived in the country on these manorial estates, and the larger part consisted of the villeins and their families. To-day, in Great Britain, more than two-thirds of the people live in cities of 10,000 or more inhabitants, and the larger part consists of wage-earners employed in manufacturing and commercial enterprises, and their families. Secondly, most of the inhabitants of the manor were condemned to live and die where they were born, and few of them ever visited other places or came in contact with other ways of living. The difficulty and danger of travel, the scarcity of money and other forms of wealth that might be treasured up and easily transported, and the poverty of the villeins, were all conditions serving to reinforce the legal obstacles to the free movement of population from one part of the country to another. It was a rigid system of status in which children were forced to follow in the footsteps of their fathers and only those of rare ability could hope to rise above the positions to which they were born. The greater freedom of movement enjoyed by present-day wage-earners need not be emphasized. Thirdly, each villein family produced for itself practically everything it required. The few exchanges in which villeins participated consisted in the barter of their products for the small quantities of salt, iron and other foreign goods, which they needed and could not produce for themselves. Under these circumstances the stimulus of competition, so active where production is for the general market, was almost entirely absent. The result was that slow development of industrial processes which made the perpetuation of the system for so many centuries possible. The crops to be sown and the methods of cultivation had become matters of tradition and the idea of improving upon the wisdom of the fathers touching these subjects was foreign to the thought of the time. Thus generation followed generation, dividing up the land in the same way, using the same crude implements, subsisting on the same sorts of food, dwelling in the same sorts of houses and wearing the same sorts of clothes. In contrast

with this condition of stagnation, change, movement and progress are the dominant characteristics of the present day. Fourthly, as already stated, money was almost unknown to dwellers on the manorial estates. Between the products of their labor and the commodities they themselves desired, there was no confusing intermediary to leave them uncertain whether they were receiving all to which they were fairly entitled. The simplicity of this situation is in striking contrast with the complexity of our present industrial organization, when practically everything that is produced is sold for money and practically everything that is consumed is bought with money.

The Gild System.

§ 5. Contemporaneous with the manorial system in the country was the gild system in the town. To understand the function of the gilds it is necessary to remember that towns grew up as centers of trade and that their populations were made up in part of persons who had broken away from the restraints of manorial life. The result was constant friction between the inhabitants of the towns and the nobles who so largely dominated the country. At the same time there was in progress a struggle between the nobles, who were jealous of the royal power, and the king. This made an alliance between king and townspeople so natural as to be almost inevitable. The king guaranteed the dwellers in the towns special privileges, set forth usually in royal charters, and in return the townspeople promised special contributions to the royal exchequer and unswerving loyalty in time of emergency.

Merchant Gilds.

Since trade was the primary purpose of the town, trading privileges were those first demanded, with the result that practically whole towns were incorporated as trading or "merchant gilds." The privilege might be limited to a monopoly of trade in all but the most necessary articles within the town itself. Often, however, it embraced also the trade in certain products in other towns or even throughout the kingdom. Interesting features of the merchant gilds were the minute rules by which they regulated the conduct of their members in reference to buying and selling. In this respect they were not unlike modern stock exchanges, except that the rules of the strictest exchange are lax in comparison with

those of the merchant gild. The purpose of these rules was to promote fair dealing, fraternal relations among members, and, in general, a regard for the interests of the trade as a whole, in place of exclusive regard for individual gain in special transactions. Such matters as the times and places for holding particular markets, the qualities of goods to be dealt in and the methods of bargaining to determine prices came in for special regulation. The enforcement of these rules was intrusted to wardens or inspectors appointed from gild members, and the punishments inflicted on transgressors ranged from public censure to fine, imprisonment and expulsion from the gild.

Craft Gilds. As the towns grew they came to be the seats of various handicrafts, and within one hundred years after merchant gilds were organized "craft gilds" began to be formed. These were unions of the artisans engaged in each particular handicraft and were designed partly to promote honest work, fraternal relations, etc., as in the case of the merchant gilds, and partly to secure for their members the right to trade in their own products. Like the merchant gilds, the craft gilds formulated and enforced most minute regulations concerning the conduct of their members. Thus, night work was frequently prohibited, weights and measures were regulated and the adulteration of products was forbidden.

As voluntary associations of nominal competitors both merchant and craft gilds undertook to restrain competition in the interest of the whole trade. They rendered for their members many of the services, such as protecting their persons and property, which are now performed by the state or government; but in addition they bound their members not to pass beyond certain limits in their competition with their gild brothers lest the interests of the corporate group should suffer. Thus in the towns, as in the country, competition was much restricted at this period and in its place local customs and local regulations largely determined the direction of industrial activity.

In the towns the institution of private property was more highly developed than in the country, since most town wealth was personal and the effective utilization of town land re-

quired it to be more completely under the control of the person using it. At the same time, a town "common," or piece of land used in common by all the townsfolk, was a usual feature of town organization, and in other ways the original connection of the towns with the manors was shown.

Change from Local to National Regulation.

§ 6. The decay of the manorial system and of the gilds was so gradual that it is difficult to trace its progress. The first great change was a substitution of money payments for the labor dues formerly required of villeins. This was part of a general substitution of money exchanges for barter in all departments of industrial life and probably did more than anything else to break down the medieval and usher in the modern system of industry. The change was made possible for England by the active demand for her wool on the Continent, especially after the Crusades in the thirteenth century, which did much to develop international trade. In exchange for wool, silver was imported, and this was coined and gradually put into circulation in all parts of the country. Lords of manors did not oppose the change because it was clearly to their advantage to permit their villeins to substitute money payments for their labor dues, so long as they could hire labor as it was required.

The Black Death.

The last attempt to perpetuate the old system was made after the terrible epidemic known as the "Black Death" (1348), which carried off from one-third to one-half of the population of the country. As a result of this frightful mortality labor became scarce and wages advanced. Rather than pay the higher wages demanded, the lords of manors and the king united in the attempt to compel the villeins to make the same labor return in exchange for their allotments as under the old service system. "Statutes of Laborers" ordering workmen to accept the customary wages were passed in 1351, and subsequent years, but they seem to have had little practical effect. The Peasants' Revolt in 1381 seems to have been in part due to the bitter feeling engendered by these statutes, and though not immediately successful, it helped forward the transition from older conditions to newer ones which were more favorable to labor. The onerous labor dues required of villeins had been so far given up by 1400 that the succeeding

century has been styled "the golden age of the English laborer."

Inclosures.

The same cause which made possible the introduction of a money economy stimulated another tendency that hastened the break up of the manorial system, that is, the inclosure of lands that had previously been allotted to villeins or held in common and their transformation into great sheep ranches. The higher the price of wool, the greater the profit to be reaped by the lord of the manor from converting his estate into a sheep run. When, by the Black Death, the dearness of labor was added to the high price of wool as an inducement in this direction, "inclosing" proceeded at a rapid rate, with the result that agricultural land came more and more to be private property as it is now understood in the United States.

Causes of Breakdown of Manorial and Gild Systems.

As a consequence of these changes, and others of subordinate interest, English rural life had, by the beginning of the sixteenth century, assumed something of its modern character. The cultivators of the soil continued to produce for themselves most of the commodities they consumed, but no longer under a system of joint labor. They still raised about the same crops, but there was not the dull uniformity of the earlier period, and some improvement in methods had been made. In each agricultural district market towns had grown up to which farmers brought such of their products as were salable and where they bought some of the commodities they could not produce advantageously for themselves. They paid money rents for their lands and if they worked for others received money wages as their compensation.

The changes in the towns were as marked as those in the country. With the strengthening of the central government, the gilds, and especially the merchant gilds, were deprived of one of the chief objects of their existence, that is, the protection of their members. Moreover, trade had become so much more extensive and important that the policy of giving associations with limited membership monopolies of its different branches was felt to be inexpedient. The loss of their monopoly privileges was fatal to the merchant gilds as industrial organizations, and those which continued in existence became mere social or mutual benefit societies.

The craft gilds survived for a longer period, but many of their functions also were assumed by the national government and the scope of their influence was narrowed. The immigration of foreign artisans was also a circumstance tending to lessen their importance, though they did not relinquish their monopolies without vigorous and in some cases prolonged resistance. By 1600 the gilds had ceased to be the dominant influence shaping town life.

The most marked characteristic of the period which succeeded was national regulation of industry. This was ushered in by a series of events which can be only mentioned in passing. The accession of Henry VII. to the throne in 1485 gave the country a strong ruler just at a time when protracted civil war had prepared the people for sweeping changes. The centralizing policy which he inaugurated was continued by Henry VIII. and Elizabeth, neither of whom lost an opportunity to substitute national for local control and regulation. These changes were favored by the invention of printing, which fostered the national literature, and by the discovery of America and of the ocean route to the Orient, which stimulated the national ambition. Henry VIII.'s quarrel with the Pope, on the subject of his divorce, severed the religious bond that attached England to the Continent. In becoming head of the Church as well as head of the State, Henry did much to exalt the importance of the crown in the eyes of his subjects. Through these influences national life was stimulated and reliance on the general government increased. The result was the industrial organization which for lack of a better name may be described as the "National System."

The National System.

§ 7. The extent to which the general government undertook to regulate industry in England in the time of the Tudors is to-day hardly credible. We are so accustomed to the idea that the state should interfere as little as possible with business that the contrary system, in which regulation is relied upon usually and competition only under exceptional circumstances, is difficult to imagine. And yet this was the condition until comparatively recent times in England and in most European countries.

The practice of the Tudor sovereigns was not different in

principle from that of their predecessors. Henry III., for example, caused an "Assize of Bread and Ale" to be issued in 1267, which prescribed standard weights for the farthing loaf of bread, varying with the price of wheat, and required municipal authorities throughout England to enforce the regulation. Even before this an "Assize of Cloth," issued in 1197 by Richard I., had declared that all woolen cloth made in England should be twenty-four ells * in length, and had appointed inspectors or "aulnagers," to confiscate pieces falling below this standard. But the Tudors established and maintained for more than a century a strong central government and enforced, as had no earlier sovereigns, their national regulations.

Debasements of the Coinage.

Henry VIII.'s arbitrary modifications of the monetary system, made in order to increase the royal revenues, illustrate a bad phase of national regulation. On two different occasions, under cover of effecting a recoinage of the worn and mutilated money of the country, he caused the silver coins in circulation to be withdrawn and put out in their place coins which not only were lighter in weight, but contained a smaller proportion of silver. Under his successor, Edward VI., this policy of debasement was carried so far that for a time the standard coin contained only one part of silver to three parts of alloy. A modern government might carry through such a policy once, but the attempt to repeat it three or four times within a few years would certainly precipitate a revolution.

Statute of Apprentices.

Under Elizabeth, governmental regulation took a happier turn. More politic than her father, she was never led by lack of revenue to disregard so completely the nation's interests. The most important piece of industrial legislation of her reign was the "Statute of Apprentices," enacted in 1563. This comprehensive measure undertook to regulate the relations between masters and their journeymen and apprentices with the same minuteness that was characteristic of the gilds. "It made labor compulsory and imposed on justices of the peace the duty of meeting in each locality once a year to establish wages for each kind of industry. It required a seven-years' apprenticeship for every person who should engage in any trade; established a working day of twelve hours in summer

* An ell was forty-five inches.

and during daylight in winter; and enacted that all engagements, except those for piece work, should be by the year, with six months' notice of a close of the contract by either employer or employee.''* Besides these general regulations it contained others of a more special character, the enforcement of which would have left very little scope to competition to determine any of the relations between workmen and their employers.

Another form of interference with industry very common during the reign of Elizabeth was the granting of monopolies. The most defensible were the great trading monopolies, such as the '' East India Company,'' chartered in 1600, which had to incur very heavy expenses in establishing trade with distant lands and could hardly hope to recover the sums invested unless protected by a monopoly. But other monopolies were granted with equal readiness. Among the articles whose production and sale were thus restricted to particular individuals toward the close of Elizabeth's reign were currants, salt, iron, powder, playing cards, calf-skins, hides, potash, vinegar, coal, steel, aqua vitæ, brushes, bottles, saltpeter, lead, oil, glass, paper, starch, sulphur and new drapery. Even the personal popularity of Elizabeth did not prevent an outbreak when this list was read in Parliament, and she was forced to revoke some of the more obnoxious grants. **Monopolies.**

§ 8. Consistent with this treatment of industries carried on in England was the policy toward foreign trade known as the '' Mercantile System,'' which was pushed to the greatest lengths during the seventeenth century. The central idea of this system was that the sure index of increasing national wealth is an increasing national supply of the precious metals. In harmony with this view it was held to be the essence of sound commercial policy to export commodities of high value and to import in return commodities of low value plus specie. The difference in value between commodity exports and imports was called '' the balance of trade,'' and a balance on the side of exports was styled '' favorable '' because it was thought to entail an importation of gold or silver. **The Mercantile System.**

One of the most obvious regulations dictated by mercantilist

* Cheyney, *Industrial and Social History of England,* p. 156.

theory was the prohibition of the export of the precious metals. Such a regulation had been enacted in England as early as 1381 and it was continued as regards English coin until so late a date as 1816. To encourage the exportation of commodities, bounties were frequently paid, such as the famous corn bounty introduced during the reign of William III., in 1689, and continued until England ceased, even in years of abundant harvests, to be an exporter of the grains. To discourage imports—except gold and silver—a great variety of measures were resorted to, ranging all the way from low duties to absolute prohibitions. Discriminatory duties on imports from certain countries, such as France, trade with which showed normally an unfavorable balance, were also common. Closely related to these trade regulations was the colonial policy approved by the thought of the time. The mother country sought to limit the industries of her colonies to the production of raw materials and to monopolize the trade consisting in the importation of these materials and the exportation to them of needed manufactured articles.

Other examples of governmental regulation might be given, but enough has been said to indicate how completely every department of industrial activity was subject to governmental interference. The place of the local regulations which lost their force with the decline of the manorial and gild systems was largely taken by these national regulations, and the field left to individual enterprise and competition was still very restricted. Only gradually did the conviction dawn in the minds of English statesmen that free competition is, for many relations of industrial life, a more effective regulator than government inspectors, backed though they be by the whole power of government police. This conviction did not bear fruit in a modification of national policy until after what has been styled the "industrial revolution."

The Industrial Revolution.

§ 9. In 1750 England's industrial future was, to say the least, problematical. Her iron industry was in a declining state in consequence of the destruction of her forests, from which the charcoal, still used in smelting iron ore, was obtained. Coal mining was becoming more and more costly because of the difficulty of keeping the mines free from water.

Manufacturing still retained its etymological significance of "making by hand" (*manu, facere*), and England was little more favorably situated than other countries to develop textile and other manufactures by hand processes. In agriculture much progress had been made since the sixteenth century, but the smallness of the country precluded any great development along agricultural lines. Finally, the country was on the eve of a great struggle with France to determine which should be the dominant power in America and India, and this struggle might well cause anxiety in England, since France was larger in area and three times as large in population. In the light of this situation no one would have ventured in 1750 to predict for England the marvelous growth which she was about to experience.

Mechanical Inventions.

The new factors which started the industrial revolution before the end of the eighteenth century and made England for the greater part of the nineteenth the leading manufacturing country of the world, were inventions which caused power machinery to be substituted for hand labor in many fields of industry and enabled England to utilize on a great scale her immense coal and iron resources. Of these inventions the most important, although not the earliest, were James Watt's improvements in the steam engine. His single-acting, pumping engine was patented in 1769 and his double-acting, machinery-propelling engine in 1782. The first was applied to work a bellows in an iron foundry even before it was set up in 1777 to pump out a Cornish coal mine. In both connections it proved greatly superior to the Newcomen engine which it superseded. The double-action engine was first employed to run a cotton mill in 1785, and that date marks the turning point in England's history as a manufacturing country. In its use to furnish a blast for smelting iron ore by means of bituminous coal the steam engine cheapened machinery; in its use to keep coal mines free from water it cheapened fuel; finally, in its use to propel cheap machinery by the aid of cheap coal it enabled English manufacturers to undersell all competitors in foreign markets.

The Steam Engine.

Spinning.

The steam engine did not accomplish this result all by itself, however, since the machines which it was to propel had also

to be invented. In 1750 both spinning and weaving were hand processes, and even before Watt was occupied with his engines other inventors had been busied with the question of substituting power machinery for hand labor in these industries. The first improvements displaced the old-fashioned spinning wheel. In 1764, or thereabouts, a poor weaver by the name of James Hargreaves devised the "spinning jenny," or multiple spinning wheel. About the same time other inventors hit upon the idea of spinning by means of rollers. Richard Arkwright, a barber, made a commercial success of this process with his "water frame," patented in 1769. In 1779 Samuel Crompton, another weaver, combined these new processes in his "spinning mule" and thereby gave to power spinning something of its present efficiency.

Weaving. Power weaving was perfected less rapidly. The Rev. Edmund Cartwright invented the first power loom in 1785, but it was not until after 1800 that it began to displace to any considerable extent the old weaving frame. About the same time that Cartwright made his invention, Henry Cort, an iron and steel manufacturer, devised the puddling process for transforming pig into malleable iron, and machinery for rolling the latter into bars of convenient size for further manufacture. By the end of the century the use of water and steam power in place of hand and foot power was beginning to make its way into every important branch of English manufacturing, and the latter term was coming to have its present meaning of "making by machinery."

Steam Transportation. The industrial revolution was not fully consummated until the same power which had transformed manufacturing processes was applied to transportation. Robert Fulton's invention of a successful steamboat in 1807 was an important step in this direction. It was not, however, until 1838 that the first steamship crossed the Atlantic, and it is only in our own day that ocean freights are beginning to be moved predominantly by the power of steam. The invention of the locomotive by Robert Stephenson in 1814 made possible the application of steam power to land transportation. The first English railroad was opened for traffic in 1825 and placed England more than a decade in advance of other European

countries in her utilization of this important aid to industrial development. Cheapened means of transportation contributed quite as much as cheapened processes of manufacture to the marvelous growth of England's industries during the last century. They enabled her to ship her goods to the most remote quarters of the world and to import in exchange the cotton, wheat and other raw materials for whose production she was less well adapted than for manufacturing. These applications of steam power multiplied many fold the advantages which England derived from her abundant supplies of coal and iron and helped to confirm her possession of the title of "mistress of the sea," which she had acquired toward the close of the seventeenth century.

The Laissez-faire Policy.

§ 10. One of the principal effects of the industrial revolution was a radical change in governmental policy in England. As one invention followed another industrial conditions were so modified that the old regulations ceased to be effectual. Specifications in regard to the qualities and the prices of goods were obviously inapplicable when methods and costs of production were changing so rapidly. Equally futile were rules in regard to periods of apprenticeship and rates of wages. Realization of this fact came only gradually to members of Parliament, and it was several years after Adam Smith formulated the arguments against governmental regulation and interference that have now become classic before the policy of non-interference or *laissez-faire* was adopted. In his "Inquiry into the Nature and Causes of the Wealth of Nations," published in 1776, Adam Smith describes this policy as follows:* "All systems, either of preference or restraint . . . being taken away, the obvious and simple system of natural liberty establishes itself of its own accord. Every man, as long as he does not violate the laws of justice, is left perfectly free to pursue his own interest in his own way, and to bring both his industry and capital into competition with those of any other man or order of men. . . . According to the system of natural liberty, the sovereign has only three duties to attend to; . . . first, the duty of protecting the so-

* End of Chapter IX., Book IV.

ciety from the violence and invasion of other independent societies; secondly, the duty of protecting, as far as possible, every member of the society from the injustice or oppression of every other member of it, or the duty of establishing an exact administration of justice; and, thirdly, the duty of erecting and maintaining certain public works and certain public institutions, which it can never be for the advantage of any individual or small number of individuals to erect and maintain; because the profit could never repay the expense to any individual or small number of individuals, though it may frequently do much more than repay it to a great society."

Abolition of Old Restrictions.

The conversion of a majority of the members of Parliament to belief in the *laissez-faire* policy in reference to wages, apprenticeship and the other matters regulated by the Elizabethan Statute of Apprentices occurred during the closing years of the struggle against Napoleon. In 1811 a Select Committee of the House of Commons reported that "no interference of the legislature with the freedom of trade, or with the perfect liberty of every individual to dispose of his time and his labor in the way and on the terms which he may judge most conducive to his own interest, can take place without violating general principles of the first importance to the prosperity and happiness of the community." Acting upon this view in 1813, Parliament responded to a petition demanding the enforcement of the clause of the Statute of Apprentices which required justices of the peace to fix wages, by repealing that part of the law. Its attention was next directed to the apprenticeship clause of the Act, and in the following year, notwithstanding the opposition of many workingmen, it also was repealed. Other legal restrictions were removed in subsequent years (*e.g.*, the East India trade was made free in 1813; the restrictions on emigration were abolished in 1824; restrictive features of the poor law were amended in 1834) and the way was prepared for the repeal of the tariff restrictions on foreign trade finally effected in 1846. With that measure the last vestige of the policy of national regulation devised by the statesmanship of Elizabeth and her successors disappeared. It would be a mistake to conclude, however, that the *laissez-*

faire policy was ever, even for a few years, in full operation in England. As old regulations were abolished, humanitarian considerations secured the enactment of new ones designed less to further the interests of business than to protect the weaker classes in the community, children and women, from overwork under insanitary conditions. These new regulations, usually referred to as "labor laws," have now assumed an importance which entitles them to separate consideration (Chapter XXX.).

Rise of the Factory System.

§ 11. The substitution of expensive power machinery for the simple tools and implements previously used in all branches of industry ushered in the present "factory system." The leading characteristics of this system are so familiar that it will be necessary merely to indicate the changes which it made in the situation of the laboring population of England. Previous to the industrial revolution it was customary for artisans to own their tools and to carry on their work either in their own homes or in small adjacent shops. The master workman was assisted by a few journeymen and apprentices, but in most trades there was no wide gulf between him and them. All belonged to the same social class. The work done was more often to meet orders given in advance than to supply the general market, and consequently the risk of loss through misdirected production was small. In some trades, and notably in the textile industry, a class of middlemen had arisen who supplied the raw material to artisans and paid them at stipulated rates for turning it into finished products. This arrangement relieved artisans of the trouble of seeking their own raw material and of dealing directly with consumers, but it did not alter materially their relation to their work or to those who assisted them. Still another characteristic of the time was the practice of combining two or three occupations. The families of farm laborers usually had spinning wheels, and added to the family income in winter by making yarn. Weavers' families, on the other hand, usually had garden patches about their homes, and produced for themselves in summer much of the food which they required. In these ways the dependence of different families and of different localities upon single industries, which is so

characteristic of the present organization of industry, was lessened.

Its Consequences.

The introduction of power machinery broke up these simple arrangements. To use such machinery economically it was necessary to employ dozens, even hundreds of hands under the same roof. Moreover, the machinery and the factory building, in which it was installed, were too costly to be owned by the workers themselves. Their use brought forward a new class of "capitalist employers," who were widely separated from their employees, and were apt to look upon the latter very much as they looked upon the material instruments of production which they employed. Finally, the new machine processes of production called for different industrial qualities than those which had been at a premium when production was mostly by hand. The skill of the master craftsman was now rendered of small value by the perfection of well-nigh automatic machines which even children could control. As a consequence whole classes of the population, which were previously in comfortable circumstances, were deprived of their ability to earn even a bare subsistence, and other classes, for whose labor there had been previously little demand, found their position much improved. A further result of the introduction of power machinery was a change in the location of industrial centers. From an early period the eastern and southern counties of England had been the seats of the country's principal industries. But both water power and coal were lacking in these regions while found in abundance in the northern and western counties. The result was a great shifting of industries to the north and west. This shifting of the centers of industry imposed terrible hardships upon the sections which were waning in industrial importance, from the consequences of which some of the counties of England have not even yet entirely recovered.

The cheapened processes of production which were so advantageous to the country as a whole, were, thus, the cause of much suffering to the working class. Their introduction served to widen the gulf between employers and employees, to make whole districts dependent for their prosperity upon the condition of single trades and to encourage the employment

of children and women, for whose labor there had been before little demand outside of the home. The problems which have arisen as a consequence of these changes still press for a solution, not only in England, but in all progressive countries, and give perhaps its chief interest to the study of economics in our day.

Conclusions.

§ 12. To sum up this brief sketch of the rise of modern industry in England: the course of development was from local self-sufficiency in industrial matters and local regulation to an industrial organization of national scope, in which questions of money and trade were prominent, and national regulation was the rule. Only within the last one hundred years has the system of industrial freedom been adopted. The institutions and practices belonging to this last stage of development, now so familiar as to seem almost necessary, are none of them very old—compared with the age of industrial society—and are all of them on trial, and likely, in the course of time, to be found unfitted to new industrial conditions, and to be discarded as were the institutions of the manorial system and the regulations of the Elizabethan period. Free competition, which seems to the modern mind so essential to the continuance of prosperous industrial activity, was almost unknown in medieval England. Private property, at least in agricultural land, hardly existed in its modern form. The granting of monopolies, which is so repugnant to the modern sense of justice, was almost as common in the days of Elizabeth as is the granting of charters of incorporation to-day. Present practices and institutions have been adopted because they suit the needs of the time; but as surely as conditions are changing and new needs are becoming dominant, practices and institutions must also change.

That industrial relations and institutions are subject to change and development is the first and most important lesson of economic history. The second, and almost equally important, lesson is that the range of the changes that may occur and the degree of development that may be looked forward to are indefinitely great. We have seen how different were the conditions in England a thousand years ago from those which we know to-day. But a period of a thousand years

is only a brief chapter in human history. There is no means of determining at what period man first emerged as a tool-using animal; but fist-hatchets, the most primitive known form of human tool, are believed by geologists to have been in use two hundred thousand years ago. In comparison with the age of man, our English ancestors of the eleventh century are thus almost our contemporaries. There is no means of determining how long man will continue to live upon the earth; but we have every reason to believe that it will be for two hundred thousand years longer, or even more. Changes as great as that from the manorial system to the system of freedom of industry and enterprise may occur over and over again in this time. In fact, so great are the possibilities of development, that we are justified in believing that any form of industrial organization, or any institution, that would prove truly desirable for the mass of men, will also be found to be attainable. It is with this conviction that the student of economics should approach the consideration of the practical problems of his own day.

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CHAPTER II

INDUSTRIAL EXPANSION OF THE UNITED STATES

The Colonial Period.

§ 13. The story of the settlement of different portions of North America by colonists from different lands, of the magnificent distances and the differences in institutions and ideas which long held them apart, and of the common interests and the common cause, first against the French and Indians, and then against the English, which at last brought them together and cemented them into a nation under the Constitution of the United States (1789), has been too often told to need repetition. From its very nature, as a new country with unbounded natural resources in virgin land and forests, the United States was predisposed to extractive industries. The earlier settlers established themselves along the coast as farmers and Indian traders. As the Indians were driven back into the wilderness, adventurous whites took up the business of hunting and trapping and acted as pioneers in the westward movement characteristic of the development of the country during the last century.

During the seventeenth and eighteenth centuries, the American farmer made for himself most of the things that he required. His food was the produce of his farm or game from the neighboring forest. For clothing he used the skins of animals and homespun cloth. His house was made of rough-hewn logs. Only his gun and some of his tools and implements were purchased, and these were mostly imported from England. One important branch of manufacturing alone was developed during colonial times, that is, ship-building, which early established itself in New England, and continued to be a leading industry in that section until wooden vessels were superseded by those of iron.

The industrial institutions and ideas which were fostered by colonial conditions may be easily surmised. Living in com-

Liberty, Private Property and Equality.

parative isolation and enjoying almost complete industrial independence, the colonists came to regard *liberty* as one of their dearest possessions. To direct one's life and activities as one pleased came to be thought of as an inherent right with which no such extraneous thing as government should interfere. The abundance of free land and the importance to the first settlers of extending the cultivated area as rapidly as possible so that the menace of Indian massacre might be pressed farther and farther into the interior, made the system of *private property in land* seem natural, if not inevitable. From an early period settlers were permitted in nearly all of the colonies to acquire on easy terms the absolute ownership of large estates. As long as equally promising land remained open to the border pioneer there seemed nothing inconsistent in this policy with the ideal of *equality,* which was fostered by the similarity of the conditions under which most families lived and supported themselves. This ideal showed itself in connection not only with social usages, but also with the political organization of the country. Short terms and rotation in office, which are characteristic of American public life, have from the first been defended in the popular consciousness on the ground that any good American citizen is competent to serve his country in any capacity.

Experience with the thefts and depredations of the lawless characters that are always found in pioneer communities made the colonists peculiarly alive to the sacredness of property. It was taken for granted that property was justly acquired, and governmental machinery was largely devoted to protecting people in the use and enjoyment of their possessions. Thus, in the bills of rights which were generally appended to the constitutions adopted by the states after independence was achieved, life, liberty and property are characterized as the three fundamental and inalienable rights of American citizens. In exalting the rights of property the colonists were not so much breaking with the institutions which they had brought with them from the Old World as giving greater prominence to familiar ideals. By so doing they paved the way for an industrial civilization which has been marked thus far by intense individualism in thought and practice.

Slave *v.* Free Labor.

In conflict with the ideals of liberty and equality was the demand arising from the abundance of fertile land for a large laboring population. To satisfy this need Negro slavery was early introduced into the southern colonies, where conditions of soil and climate made slave labor profitable. The northern colonies resorted to the system of importing white servants from Europe under contracts (indentures) which required them to work for a certain number of years in return for their passage money. Where slavery flourished manual labor itself soon came to be despised by the free inhabitants, so that slaves, who were at first merely a convenience in such sections, became, with the progress of time, an economic necessity. The system of indentured labor had no such serious consequences. At first, a valuable supplement to the wages system which was carried on side by side with it in the northern colonies, it was given up entirely early in the nineteenth century, when easier ways were found of securing from Europe the much-needed working force. The diverse social, political and economic ideals which North and South owed to their contrasting labor systems were the root cause of the attempt of the Southern States to secede, and of the terrible Civil War through which the Union was saved and through which, incidentally, slavery was abolished. Since the issue of the Emancipation Proclamation in 1863 the wages system has been introduced in one form or another into all sections, until it has become the characteristic labor system of the whole country.

The National Industrial Ideal.

§ 14. When the united colonies declared their independence of Great Britain and formed themselves into the United States, the industrial ideal of most of the revolutionists was an agricultural community. Appreciating the vast extent of the undeveloped resources of the country and the superior advantages of England for manufacturing, the founders of the Republic counted upon a mutually advantageous trade, consisting of the exportation of raw products and the importation of manufactured goods, as one of the conditions to national prosperity. England's own policy had much influence in giving a different direction to national ambition. Through her restrictive measures she made trade on equal terms between the two countries impossible. The result was that even before the

Federal Constitution was adopted some of the states, such as Massachusetts and Pennsylvania, had entered vigorously on the policy of developing home manufactures. Through the influence of the representatives of these states the first national tariff act, passed in 1789, contained distinct intimations that the building up of manufactures within the country was one of the objects aimed at. Alexander Hamilton's famous "Report on Manufactures," submitted to Congress in 1792, clearly presented and defended the ideal of national industrial independence, and when the United States was involved in 1806 in the European struggle, which had up to that time redounded to its advantage, and was led, in 1812, to take up arms against Great Britain in defense of its rights upon the high seas, this idea had gained many adherents. The tariff acts of 1816, 1824 and 1828 reflect clearly the new ambition to build up all desirable industries within the confines of the United States, and to reduce foreign trade from the position of the source of manufactured necessaries to that of an outlet for surplus products. During the first three decades of the nineteenth century American cotton and woolen manufactures were developed to a point where they compared not unfavorably with the same industries in Great Britain. The great inventions, which were described in the last chapter, were introduced, and in some cases improved upon, and the water-power furnished by the swift-flowing streams of New England and the Middle States was utilized. Iron and steel industries developed more slowly, owing to ignorance of the coal and iron resources of the country. During this period the Southern States, which could not, because of their "peculiar institution," hope to develop manufactures of their own, quite reasonably objected to paying the higher prices needed to protect Northern manufacturers. Out of deference to the more important slavery issue, a compromise was effected in 1832 which resulted in lower protective duties until just before the outbreak of the Civil War. The withdrawal of the South from representation in the Federal Government during that struggle, and the thinly veiled hostility of some of the countries of Europe to the side of the North, caused a great revival of the ideal of national industrial independence. Opinions dif-

fer as to whether the protective tariffs and other measures that were adopted in the effort to realize this ideal have been beneficial to the country as a whole. That they have been potent influences in strengthening the bonds which united different sections and in fostering a spirit of national as distinct from state patriotism, cannot, however, be doubted.

Physical Characteristics of the United States

§ 15. The purchase of the Louisiana Territory from France in 1803 gave a new direction to national ambition. Henceforth, to extend their settlements until they stretched from sea to sea, became the definite purpose of the people of the United States. The story of the way in which that purpose has been fulfilled constitutes the most characteristic chapter in the country's history.

As rounded out by the annexation of Texas in 1845 and the subsequent purchases from Mexico, the United States contains nearly 3,000,000 square miles of territory, of which fully 2,500,000 square miles enjoy a summer climate suitable for agriculture. Geographically this region falls roughly into four great divisions. The original colonies were confined between the Atlantic Ocean and the Appalachian Mountains, which extend with but few interruptions all the way from Maine to Georgia. West of these mountains the valleys of the Mississippi River and of the Great Lakes begin, and extend in an unbroken plain, embracing more than one-half of the area of the whole country, to the foot of the Rocky Mountains. From the Rocky Mountain range to the Sierra Nevada range in California and the Cascade range in Oregon and Washington, is the third division of the country, an arid plateau broken by other mountain ranges and formerly designated as the Great American Desert. West of the Sierra Nevada and Cascade mountains, and extending to the Pacific Ocean, is the fourth geographical division. A brief account of the physical characteristics of these different sections will contribute to an understanding of the forces which have shaped the industrial expansion of the country.

The Atlantic Seaboard.

The region between the Atlantic Ocean and the Appalachian Mountains is distinguished by excellent harbors and numerous rivers and streams suitable for navigation and for use as sources of water-power. The land of this section is

fairly good and, in consequence of the growth here of many of the largest manufacturing and commercial cities of the country, has been more highly cultivated than that of sections more distant from profitable markets.

The Middle West.

The Mississippi Valley and the Valley of the Great Lakes form the great agricultural section of the United States. Besides being very level, in consequence of glacial action at an earlier period, this region has a rich soil and is well watered by the clouds which rise off the Gulf of Mexico and are deflected east by the Rocky Mountains. Its natural advantages for water transportation are even more remarkable. It is estimated that the Mississippi and its tributaries, the Ohio and the Missouri, are navigable for over 10,000 miles of their extent, while for nearly half that distance they are large enough to carry vessels of a considerable size. The Great Lakes offer even better facilities for transportation, although over a shorter course. As supplemented by the canals connecting Lake Superior with Lake Huron and Lake Erie with the Hudson River and with Lake Ontario, these great bodies of water make possible continuous navigation for a distance of more than 2000 miles. As outlets for the agricultural and mineral products of the Northwest their importance can hardly be overestimated.

The Great American Desert.

The western border of the Mississippi basin suffers from the same scarcity of rainfall that has given its name to the Great American Desert, and should really be treated with that section in an economic classification. This arid region is nearly 1000 miles wide at the northern border of the United States, but narrows to 500 miles on the Mexican frontier. Its total area is quite one-third that of the whole country. The soil of this vast territory has been found to be exceedingly fertile in those places where artificial irrigation can be employed, but even the most liberal estimates make such sections but a fractional part of the whole region. So far as can be foreseen the greater portion of it must remain useful only for its mineral deposits and for cattle and sheep grazing.

The Far West.

The country bordering on the Pacific Ocean has a character peculiar to itself. Its southern section enjoys a semi-tropical climate and is suited to the cultivation of oranges, lemons,

olives and similar fruits. A lower mean temperature adapts the region farther to the north and extending all the way to Puget Sound, to the growth of wheat and other grains. The most serious natural defect of this region is a lack of navigable rivers and of harbors. The construction of canals and of breakwaters may in time offset these disadvantages and make this one of the most prosperous agricultural sections of the country.

The New Possessions.

Detached from the compact area that has been described are the outlying territories more recently acquired by the United States by purchase, by annexation and by conquest. Of these the principal are: Alaska (area, 531,000 square miles), Hawaii (6740 square miles), Puerto Rico (3600 square miles) and the Philippines (120,000 square miles). Alaska is valuable for its mineral deposits and its fisheries. The principal product of Hawaii is sugar, for which there is a ready and ample market in the United States. Puerto Rico also produces sugar in considerable quantities, but its chief crops are coffee and tobacco. Both islands are sufficiently near the United States to become Americanized, and are valuable as coaling stations for the nation's growing fleet of merchant vessels. The chief products of the Philippines are hemp, sugar, copra and tobacco. The first two are much needed in the United States, and may become the basis for an extensive trade.

Development of Transportation Facilities.

§ 16. The foreign complications in which the country began to be involved shortly after the acquisition of Louisiana checked somewhat its internal development during the first two decades of the century. The long period of peace which ensued was very favorable to the progress of settlement, and about 1820 the era of westward expansion began in good earnest. As already indicated, the first great obstacle to westward immigration was the Appalachian Mountains. Building roads over these mountains and through the dense forests which surrounded and covered them was a task of such seriousness that state aid had to be called in for its accomplishment. Even after roads were built, travel continued to be slow, difficult and dangerous. The need of an easier route to the Middle West was keenly felt, and led to the projection of the Erie Canal to connect the Hudson River at Albany with the eastern end of

Lake Erie. The canal was completed and opened for traffic in 1825, and its superiority over the rough wagon roads as a means of conveying settlers and goods to and from the towns that were springing up about the Great Lakes and along the Ohio and Mississippi was immediately shown in the impetus which it gave to emigration from the Eastern States.

Growth of Railroads.

While attention was being given to the building of better roads and of other canals in different sections of the country, the railroad and steam locomotive were introduced from England, the first steam locomotive being used in 1829. This event marks a turning point in the history of internal improvements. In a few years there was in progress a veritable stampede for railroad construction at government expense. The states vied with each other to take the lead in this development, and bonds to secure the needed funds were issued so recklessly that by 1845 even so rich a commonwealth as Pennsylvania was brought to the verge of bankruptcy. The reaction which followed was as violent as had been the original mania. Canals and railroads were disposed of for a fraction of their cost and taxation was resorted to to make up the deficit. The net result of the policy of internal improvements at state expense was that the country secured the railroads indispensable to its development at an earlier period than would have been possible had conservative counsels ruled at this period. In comparison with the 229 miles of railroads built before 1832, there were in operation by 1840, 2818 miles; by 1850, 9021 miles, and by 1860, 30,626 miles. Without the railroads the marvelously rapid settlement of the Mississippi Valley could hardly have taken place.

Crossing the Continent.

Before the outbreak of the Civil War plans had been matured for the construction of a transcontinental railway, and appeal had been made for Federal aid to carry out the project. The idea was revived as soon as the war closed, and with the aid of a Government loan and a substantial grant of land the Union and Central Pacific Railroads were finally connected. They were opened for through traffic in 1869, and served as a valuable aid to the settlement of the Far West. Other transcontinental lines were pushed over the Rocky Mountains at other points, and at the close of the century

there were six different railroads crossing the country from east to west, and able to convey passengers from New York to San Francisco in less time than had been required a hundred years earlier to go from New York to Washington. To aid in the building of these roads the Federal Government made land grants aggregating millions of acres and pledged its credit for millions of dollars, nor was their construction accomplished without wholesale corruption and misappropriation of funds. It must be conceded, however, that in this case, as in the case of the state-aided railroads, the ultimate benefit to the material development of the country far exceeded the loss to the public purse.

Importance of Railroads.

Already, by 1861, the railway mileage of the United States was equal to that attained in 1900 by any single European state. In 1910 the total mileage for the United States was 240,000, as compared with 400,000 miles for the rest of the world, of which 207,000 were in Europe. The increase in the business of the railroads in recent years has been even more remarkable than the increase in their mileage. Thus the number of "passenger miles" * reported by all of the roads of the country increased in round numbers from 11,800,000,000 in 1890 to 32,300,000,000 in 1910, or 173 per cent, and the number of "ton miles" * reported from 77,200,000,000 in 1890 to 255,000,000,000 in 1910, or 230 per cent. When it is considered that it is good average hauling over a country road, for a man and a team to move one ton twenty miles in a day, some conception may be formed from these figures of the importance of the service which the railroads of the country render. In 1910 they carried as much freight as could have been moved on this basis by 34,931,507 teams working every day in the year. To accomplish the work in this way would have required more teamsters than the entire male population of the country over sixteen years of age. No single fact so well illustrates the rapid industrial expansion of the United

* These are the units usually employed to compare the businesses of different transportation systems. "Passenger miles" mean the number of passengers carried one mile; "ton miles," the number of tons carried one mile. They are determined by adding together all the miles traveled by all of the passengers and all the miles covered by all of the tons of freight.

States as this remarkable development of its transportation facilities.

Growth of Population.

§ 17. The following table shows the growth of the population of the United States by decades from 1790 to 1910:

Year	Population	Increase per cent.
1790	3,929,214	
1800	5,308,483	35.1
1810	7,239,881	36.4
1820	9,638,453	33.1
1830	12,866,020	33.5
1840	17,069,453	32.7
1850	23,191,876	35.9
1860	31,443,321	35.6
1870	38,558,371	22.6
1880	50,155,783	30.1
1890	62,947,714	25.5
1900	75,994,575	20.7
1910	91,972,266	21.0

These figures do not include the populations of Alaska, Hawaii, Puerto Rico and the Philippines. The additions to be made under these heads for 1910 made the population of the whole country over 100,000,000.

In comparison with the rates at which the populations of other countries have grown during the period covered, the growth of the United States has been astonishing. In fact, history furnishes no parallel on an equal scale to the increase from 1790 to 1860, when the total population doubled three times. The marked falling off in the percentage of increase since 1860 is indirect proof that the chief incentive to the rapid growth of the preceding years was the abundance of fertile and practically free land which was open to settlement. It is also reassuring to those who feared lest the country should be burdened with a superabundant population.

The Foreign and Native Born.

From the beginning of its history the United States has each year attracted large accessions to its population from abroad. From 1820, when statistics of immigration first began to be kept, to 1910, nearly 28,000,000 immigrants came to the country. The largest number in a single year previous to 1903 was 789,000 in 1882. The number continued large, averaging about 500,000 each year, until 1894, when it was

reduced by the industrial depression. The lowest number in recent years was reached in 1898, when only 229,000 immigrants were reported. By 1902 the number had increased again to 649,000, and in 1907 it was 1,285,000. Declining in 1908 and 1909 on account of business depression, it was again in excess of 1,000,000 in 1910.

No statistics of births and deaths for the country as a whole are collected, so it is impossible to compare directly the "natural increase," that is, the annual excess of births over deaths within the country, with the increase due to immigration. Some notion of the relative importance of these two sources of population is afforded, however, by the census comparisons of the native and foreign born. The enumeration for 1910 showed that of the total white population, 68,400,000, or 84 per cent, were native born, and 13,300,000, or 16 per cent, foreign born. During the decade from 1900 to 1910 the native born increased 21 per cent, while the foreign born increased 31 per cent. The census distinguishes also the native born white of foreign and mixed parentage. They aggregated in 1910 18,900,000, or 23 per cent of the white population. The native born of foreign and mixed parentage and the foreign born taken together constituted in 1910 over one-third of the total population of the country.

Negroes.

Another element in the population which is of great significance is the Negro. In 1910 9,800,000 persons, or 10.7 per cent of the people in the country, were Negroes. This element increased from 1900 to 1910 11 per cent, while the white population increased 22 per cent. Should the white population of the country continue to increase twice as rapidly as the colored population, the "race problem" will gradually diminish in relative importance.

Distribution of the Population.

§ 18. When the first census was taken in 1790, only 5 per cent of the population was found west of the Appalachian Mountains. In 1900 nearly 60 per cent was so located. The progress of this westward expansion is indicated by the following statistics: From 1800 to 1850 the population of the North Atlantic States increased by 225 per cent, and that of the South Atlantic States by 105 per cent. In the same period the population of the North Central States increased from

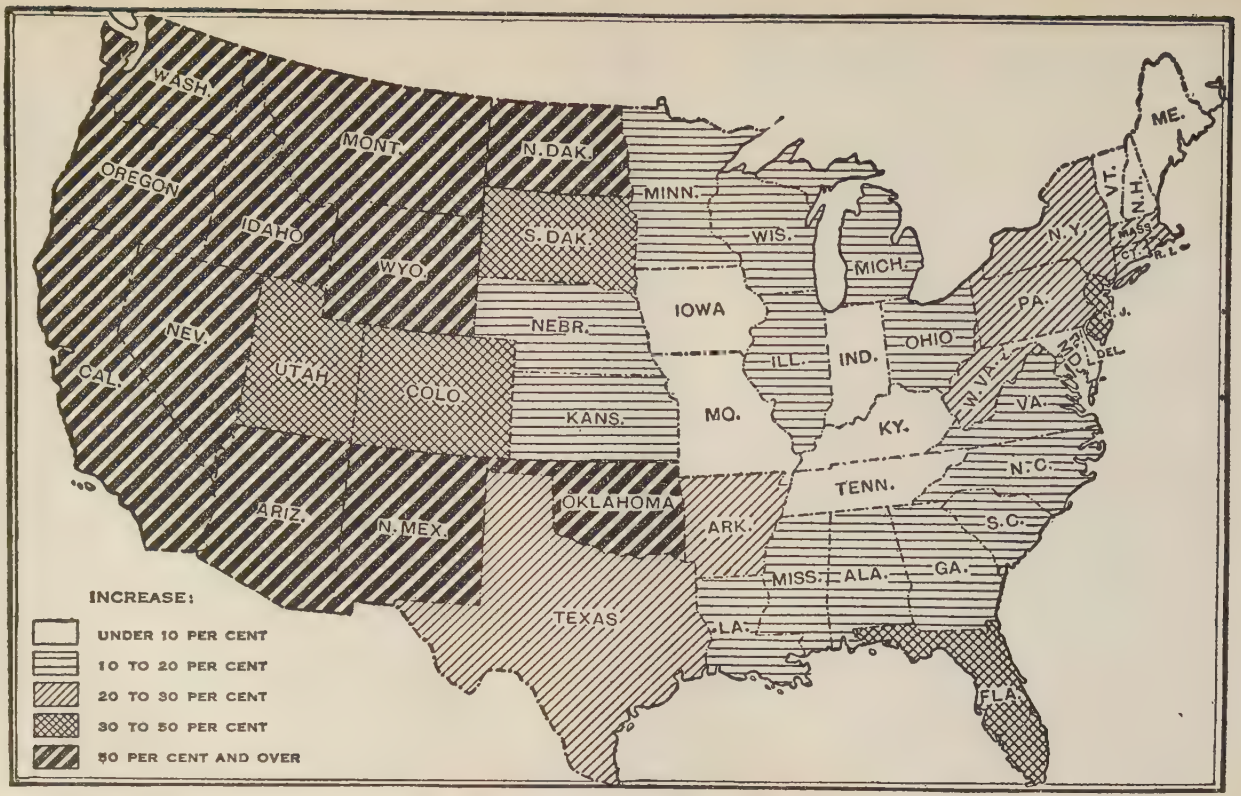
only 51,000 to 5,400,000, and that of the South Central from only 335,000 to 4,300,000. In the later years of this period the settlement of the Far West was just beginning through the migration of gold seekers to California. From 1850 to 1900 the population of these sections increased as follows: North Atlantic States, 144 per cent; South Atlantic States, 123 per cent; North Central States, 387 per cent; South Central States, 227 per cent; Western States, from only 179,000 to 4,100,000. As shown by the accompanying map, the most striking facts about the growth of population from 1900 to 1910 were the continued rapid expansion of the far western states and the very slow growth of the agricultural states of New England and the Mississippi Valley. Washington, Oklahoma and Idaho more than doubled their populations in the decade. At the other extreme, New Hampshire and Vermont showed increases of less than 5 per cent; Missouri, an increase of only 6 per cent, and Iowa an actual loss of three-tenths of one per cent. The great task of giving to the Misssissippi Valley its quota of the population of the country, thus appears to be accomplished. At its present rate of expansion, the Far West will soon have its quota also, and the westward movement that has characterized our national development from early colonial days will cease.

Race Problem in South.

§ 19. The distribution of the Negro and foreign-born elements in the United States has given rise to special problems for the sections most affected. Only about one-eighth of the Negro population has withdrawn from the states where slavery flourished before the Civil War. In 1910, in two of these states—Mississippi and South Carolina—the Negroes outnumbered the whites. In four more of them—Georgia, Louisiana, Alabama and Florida—Negroes constituted over 40 per cent of the population. In all of them the race problem overshadows all others.

The Foreign Born.

The immigrants who come to the United States settle for the most part in the North and West. In 1910 over 85 per cent of the total number of foreign-born whites were living in the North Atlantic and North Central States, and nearly 10 per cent in the Western States. The states in which the foreign born constituted over one-fourth of the population in 1910



MAP CLASSIFYING STATES WITH RESPECT TO THE PERCENTAGE OF INCREASE OF POPULATION, 1900 TO 1910

(Reproduced from the Thirteenth Census of the United States.)

were: Rhode Island, Massachusetts, New York, Connecticut, North Dakota, Minnesota and New Jersey. If to the foreign born found in these states be added the native born of foreign parentage, the foreign element is even more conspicuous. Thus, in 1910, persons, one or both of whose parents were foreign born, constituted in North Dakota and Minnesota 71 per cent of the population; in Rhode Island, 69 per cent; in Wisconsin, 67 per cent; in Massachusetts, 66 per cent; and in New York and Connecticut, 63 per cent.

Growth of Cities.

Next to the westward movement, the concentration of population in cities was the most striking tendency of the last century. In 1800 less than 4 per cent of the people of the country lived in cities of 10,000 inhabitants and upwards. This proportion had increased to 12 per cent in 1850. Since then the growth of cities has been so rapid that they contained in 1910 more than one-third of the total population of the country. A comparison of the last census with the three preceding decennial enumerations indicates how rapidly the United States is moving away from the condition of an agricultural country with a predominantly rural population. In 1880 only 29.5 per cent of the population lived in cities of 2,500 or more inhabitants; 70.5 per cent was rural. By 1890 the proportion had changed to 36.1 per cent urban and 63.9 per cent rural. 1900 found 40.5 per cent urban and 59.5 per cent rural. Finally in 1910 46.3 per cent lived in cities and 53.7 per cent in the country. Since in that year some 8.8 per cent of the population was returned as living in incorporated places containing less than 2,500 inhabitants, the country had already passed the point when more than half of its people were town-dwellers and concerned with the economic problems that result from the crowding together of people in dense centers of population. The waning importance of the country in comparison with the town is most in evidence in the extreme Eastern and the extreme Western sections of the country. In 1910, 83 per cent of the population of New England, 71 per cent of that of the Middle Atlantic, 53 per cent of that of the East North Central, and 57 per cent of that of the Pacific States were urban. In the other sections the rural population still predominated. In New York

in 1910 more than half of the population of the state was found concentrated in New York City.

Foreign Born in Cities.

A complicating aspect of the growth of cities in the United States has been the large foreign element which most of them contain. In only fourteen of the fifty cities having more than 100,000 inhabitants in 1910 did native whites of native parentage constitute as much as one-half of the population. In twenty-one of these cities, fifteen of which were in the New England and Middle Atlantic divisions, over two-thirds of the population consisted of foreign-born whites and their children. In ten of them, including New York (40 per cent), Chicago (36 per cent), and Boston (36 per cent) the foreign born alone constituted more than one-third of the population. This large foreign element in American municipalities has added materially to the economic and political difficulties with which these rapidly growing centers of population have had to contend.

New Issues Following the Conquest of the Continent.

§ 20. Up to the very recent past, the most absorbing economic interest of the people of the United States has been the conquest of the vast territory and the vast natural resources which it has been their good fortune to possess. This has given a materialistic trend to American civilization, which has caused unsympathetic foreign critics to describe Americans as a people entirely absorbed in the pursuit of "the almighty dollar." Signs are not lacking that, as the conquest of the continent is being achieved, Americans are giving more and more thought to questions connected with the uses of wealth and less and less to its mere acquisition. Allowing free scope to individual initiative and individual enterprise and confining governmental activity to the protection of property, without too much regard to the ways in which it may have been acquired, have proved excellent means of stimulating the production of wealth. But the production of wealth largely fails of its purpose if its distribution is so unequal that much of it is assigned to a small group of millionaires, while the great majority of the people find it difficult to maintain themselves in reasonable comfort. Side by side with liberty and property, equality has all along been a national ideal. Until recently it has been believed that these three

ideals, liberty, equality and property, were entirely compatible. It is clear from the literature of the day that the conviction is forming in the popular consciousness that in protecting liberty and property the government of the United States has neglected the interests of equality. Once formed, this conviction will be a powerful aid to the correction of abuses and injustices that have been tolerated only because their seriousness has not been understood. The movement for the conservation of natural resources, the demand for protective labor laws, the measures taken to regulate the railroads and other public service corporations, and the dissolution of some of the most powerful of the trusts, all reflect the new spirit that is developing and that gives to some of the practical economic problems to be considered in later chapters the intense interest of great moral issues.

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CHAPTER III

INDUSTRIAL EXPANSION OF THE UNITED STATES

(concluded)

Progress of Agriculture.

§ 21. Agriculture remains to-day, as it was in the colonial period, the dominant industry of the United States. This has been the natural result of the extensive area of fertile land with which the country is endowed, and its still relatively sparse population. Of its principal agricultural products, three, corn, white potatoes and tobacco, were indigenous to the New World. The first, because of the ease with which it may be grown on new land, has contributed more than any other plant to the material development of the country. In colonial days, corn, hay, wheat and potatoes were leading crops in the North; corn, tobacco, rice and indigo in the South. With the invention of the cotton gin, a machine for separating the cotton seed from the cotton fiber devised by Eli Whitney in 1794, and of spinning machinery capable of treating the short-fibered variety of cotton which alone flourished on the mainland, that product began to be, as it has ever since remained, "king" in the Southern States; but corn, hay, wheat and potatoes continued to be the staples of the North. As cities arose truck and dairy farming to supply their needs became profitable. Meantime the pressing back of the Indians encouraged the keeping of stock, since this is practicable only in localities where property can be protected. Agricultural methods, both North and South, prior to the Civil War, were exhausting to the soil, and the wearing out of old lands was a strong incentive urging settlers to bring the superior soils of the Mississippi Valley under cultivation.

The cheapness of land and the dearness of labor have been conditions favorable to the invention and use of labor-saving tools and machines. American farmers were from the first progressive. They were forced to devise methods better adapted to the conditions of a new country than those they brought with them from Europe. The invention of agri-

cultural machinery was especially stimulated during the Civil War, when the labor supply became even less adequate than before to the needs of the country. In this period many of the inventions were patented which have made American agriculture so different from that of the Old World. The tendency of these improvements has been to increase the productiveness of American farming not so much for each acre cultivated as for each man engaged in cultivation. Only recently has attention begun to be given on any large scale to the problem of getting as much as possible out of each acre of land, because only recently has lack of land been felt as a serious hardship by the ambitious American farmer.

Recent Developments. Since the close of the Civil War wheat cultivation has had a great development in the Northwest; the "corn belt" has been extended west of the Mississippi to the very borders of the arid region, and in that region itself cattle, horse and sheep grazing have become important industries. The extension of the "cotton belt" to include eastern Texas, and the rapid growth of the fruit industry in Florida and California are other changes of comparatively recent date. Meantime agriculture in the more settled portions of the country has become diversified and rotations of crops, calculated to preserve the fertile properties of the soil, have been introduced. The raising of green vegetables and small fruits and the keeping of cows, whose milk is sold in the city market, or converted into butter and cheese, are now chief interests to Eastern farmers. The present distribution of agricultural products in the United States is roughly indicated by the accompanying map.

Important Crops: § 22. Among all of the products of the country corn still holds first place. Its relative importance in comparison with other agricultural staples is shown by the following table, based on statistics published by the United States Department of Agriculture:

	Average Annual Crop 1906-1910	Average Annual Price of Total Crop 1906-1910
Corn	2,725,368,000 bu.	$1,454,395,000
Hay	63,487,000 tons	681,637,000
Cotton	12,083,000 bales	670,284,000
Wheat	670,500,000 bu.	579,260,000
Oats	943,994,000 bu.	367,108,000
Potatoes	324,634,000 bu.	188,740,000

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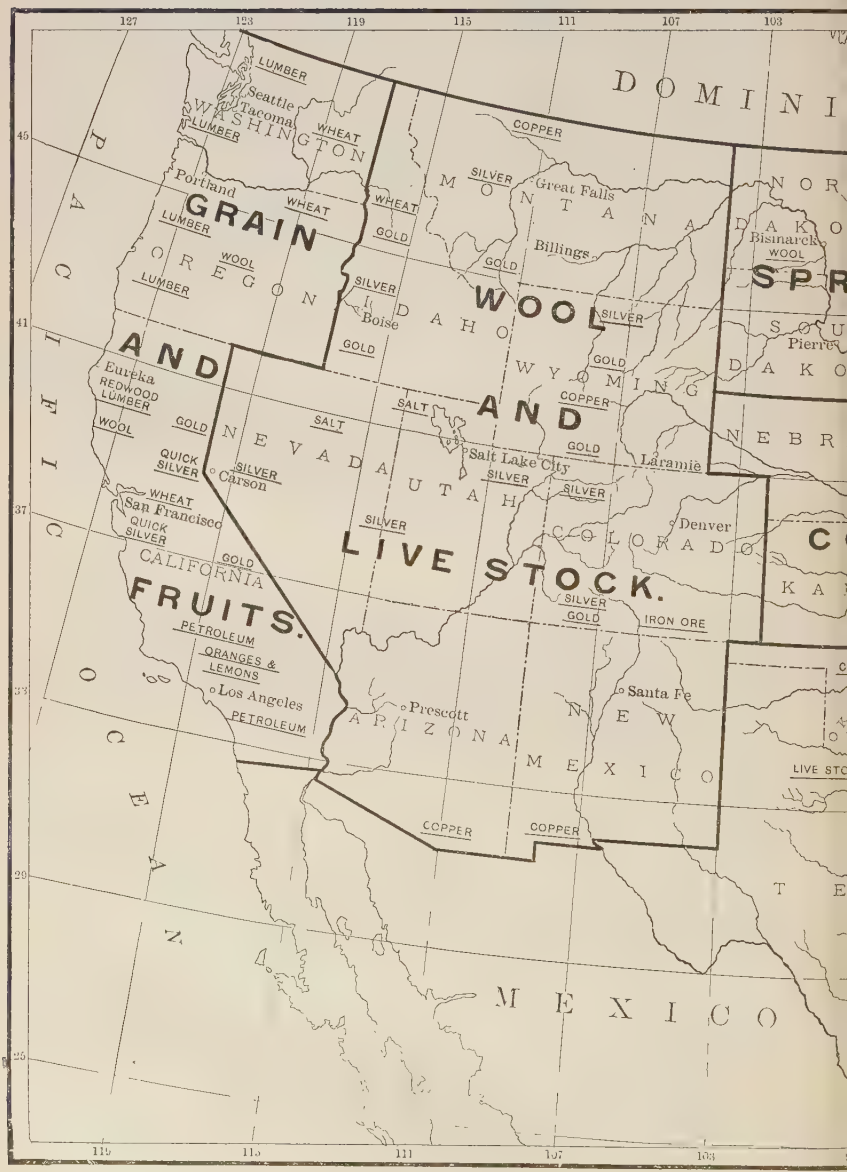

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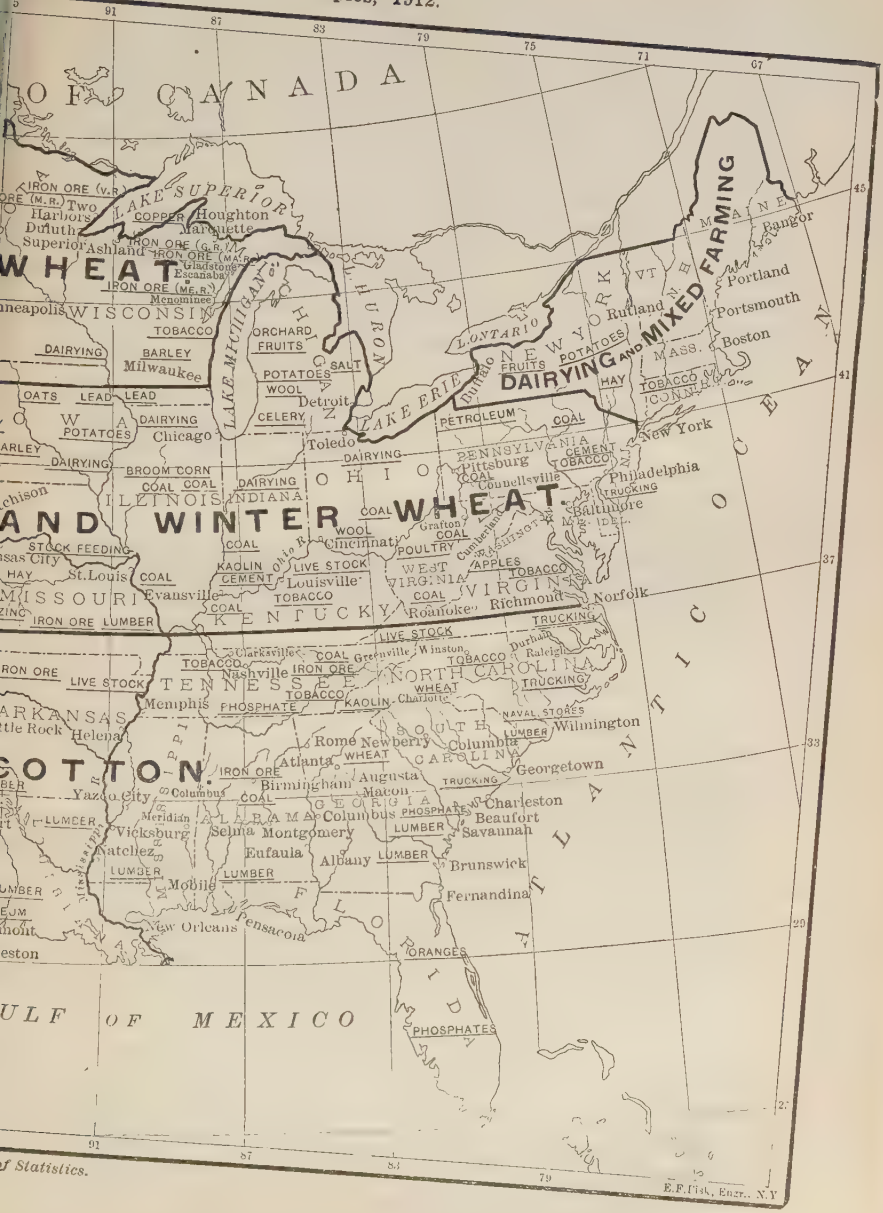

f Statistics.

E.F. Fisk, Engr., N.Y.

Corn. As the map indicates, the principal corn-producing states constitute a compact area, the "corn belt." In 1896 seven of these states—Iowa, Nebraska, Illinois, Kansas, Missouri, Indiana and Ohio—produced more than two-thirds of the country's crop. Since that year the agriculture of these states has become more diversified, and corn-growing has progressed in other sections, but they still produce more than one-half of the total crop, and depend in large measure upon it for their prosperity.

Hay. Hay, the second crop in importance, is produced in every part of the United States, and cannot be said to be localized in any particular region. The same is true of potatoes, and, in less degree, of oats.

Wheat. The production of wheat is also widespread, but the states of the Northwest, Minnesota and the Dakotas, are so dependent on this crop that they are usually described as the "wheat belt." Kansas, Washington, Illinois, Nebraska, Ohio, Missouri and Indiana are also large wheat producers in the order named. Together these ten states produced in 1911 more than two-thirds of the country's crop.

Cotton. Cotton is more rigidly confined to a particular region than any other important agricultural product. Practically the entire crop of the country is raised in the eight states, North and South Carolina, Georgia, Alabama, Mississippi, Arkansas, Oklahoma and Texas. In all of them it is the important money crop of most localities, and prosperity ebbs and flows according to the size of the crop and the price. Texas, with its immense area, naturally leads in production, averaging from 1901 to 1910 nearly 3,000,000 bales a year, worth, with the seed, not far from $200,000,000. Georgia, Alabama, Mississippi and South Carolina follow in the order named, each producing from 1,000,000 to 2,000,000 bales a year in this period. A comparison of the cotton crops of recent years indicates that the center of production moved westward down to about 1900, when there was for the first time a smaller increase in the Texan crop than in the crops of the other cotton states.

Although the aggregate amounts of the three great staples,

corn, wheat and cotton, produced in the United States, have shown no tendency to diminish, they have not increased in recent years as rapidly as have the products of minor branches of agriculture; nor has agriculture as a whole developed at the same rate as mining, manufacturing and transportation. If the present trend of development continues, it will not be long before agriculture has surrendered its place as the country's dominant industry in favor of manufacturing.

Progress of Mining:

§ 23. During the seventeenth century iron mining developed in a small way in New Jersey and at other points where beds of ore were discovered. The cheapness of charcoal enabled the Colonies to produce iron, not only for themselves, but for export, until the cheaper process of smelting by means of bituminous coal was invented. The Champlain ore district was discovered in 1801, and within a few years developed into the chief seat of the iron industry. Notwithstanding the protective duty, charcoal iron competed at an increasing disadvantage with the imported bituminous product and the industry languished until 1839, when the problem of smelting ore by means of the anthracite coal that had been discovered in Pennsylvania was successfully solved. From this time on progress in the iron industry was rapid. In 1844 T-shaped rails were first rolled in the United States, and in the same year iron ore was discovered on the shores of Lake Superior. In 1855 the output of anthracite pig iron exceeded for the first time that made from charcoal. The same year saw the invention in England of the Bessemer process, introduced nine years later in the United States, and the beginning of that wonderful development which has made ours the age of steel. The exploitation of the iron mines on Lake Superior proceeded slowly until after the close of the Civil War. It was not until 1869 that the output of bituminous coal and coke iron exceeded that made with charcoal, and not until 1875 that it exceeded that made with anthracite coal, or that the seat of the iron industry was definitely transferred from eastern to western Pennsylvania. Progress in the iron and related industries was very rapid after 1880, as is shown by the following statistics of iron, steel and coal production:

Quantities of Iron, Steel and Coal Produced in the United States from 1880 to 1910

(*In tons of 2240 pounds*)

	Pig Iron	Steel	Anthracite Coal	Bituminous Coal
1880	3,800,000	1,200,000	28,600,000	38,200,000
1890	9,200,000	4,300,000	41,500,000	99,400,000
1900	13,800,000	10,200,000	51,300,000	189,700,000
1910	27,300,000	26,100,000	75,500,000	372,340,000

Iron. In 1890 the United States surpassed Great Britain for the first time as a producer of pig iron, as she had as a producer of iron ore twelve years earlier. In 1899 the United States became also the leading coal-producing country of the world.

Coal. Practically the entire output of anthracite coal is mined in northeastern Pennsylvania. That state also leads in the production of bituminous coal, being credited in 1910 with 134,400,000 tons, or more than one-third of the total output for the country, in comparison with 55,000,000 tons for West Virginia, 41,000,000 tons for Illinois and 30,500,000 tons for Ohio. Nearly five-sixths of the bituminous coal produced in the country is mined east of the Mississippi.

Iron Ore. The chief source of iron ore continues to be the iron ranges adjacent to Lake Superior in Michigan, Wisconsin and Minnesota. Together these states produced in 1910 36,000,000 tons, or nearly two-thirds of the country's total output. Other large producers were Alabama, New York and Virginia. More than nine-tenths of the iron ore supply of the country is drawn from states east of the Mississippi.

Gold. Next in importance to coal and iron among the mineral products of the United States are the metals, copper, gold, silver, lead and zinc, and the commodities allied to coal, petroleum and natural gas. The country's output of gold was insignificant until that metal was discovered in California in 1848. According to the statistics given by the United States Mint, the production of 1853 exceeded 3,000,000 fine ounces. It did not again attain that amount until 1898, when Colorado, with an output of over 1,000,000 ounces, had become the leading center of production. Since that year Colorado has again fallen behind California as a producer of gold, each being credited in 1910 with slightly over 1,000,000

ounces out of the total of 4,660,000 ounces produced by the whole country.

Silver. The silver resources of the United States did not begin to be uncovered before 1860, when some rich deposits were discovered in Colorado. The maximum output was attained in 1892, when 63,000,000 fine ounces were produced. Since that year there has been some decline in the industry in consequence of the great fall in the gold price of the metal. The leading silver-producing states in 1910 were Nevada, Montana and Utah, each of which contributed about one-fifth to the country's total of 30,850,000 ounces. Colorado which in 1900 led in silver as in gold mining contributed only one-seventh to the total that year and Idaho one-eighth.

Copper. The development of the copper industry of the country has proceeded slowly, although that metal now stands next to iron among America's mineral products. The copper mines on Lake Superior in Michigan, formerly worked by the Indians, began production in a small way in 1854. For nearly a generation these mines were the principal sources of supply, and it was deemed necessary to protect the infant industry with a duty on imported copper. In the early eighties the copper resources of Montana were discovered, and by 1890 that state had taken the lead as a copper producer. Next to Montana and Michigan in copper production stand Arizona, Colorado and California. The progress of copper production has been continuous since the close of the Civil War. The output in 1870 was estimated at 12,600 tons. By 1880 it had increased to 27,000 tons; by 1890 to 116,000 tons; by 1900 to 271,000 tons, and by 1910 to 482,000 tons. The United States now produces more copper than all the rest of the world put together.

Petroleum. The production of petroleum dates from 1859. It was first discovered in western Pennsylvania, and wells have since been bored in Ohio, Indiana, New York, West Virginia, Colorado, California, Texas and other states. In 1880 the total output of the country amounted to 26,290,000 barrels. Progress since that year has been steady, and in 1910 the total output amounted to 209,560,000 barrels, of which nearly one-half was exported.

Natural Gas.

The production of natural gas was begun in 1872, also in western Pennsylvania. Pennsylvania, Ohio and New York are still the principal sources of supply. The value of the natural gas output increased from $13,000,000 in 1895 to $70,756,000 in 1910, but there are indications that the industry must be short-lived.

Principal Mineral Products, 1910.

The following table indicates the relative importance of the leading mineral products of the United States in 1910:

Quantities and Values of Mineral Products of the United States in 1910

	Quantity	Value
Coal: Bituminous (short tons)	417,100,000	$469,280,000
Anthracite (long tons)	75,400,000	160,280,000
Pig iron (long tons)	27,300,000	425,120,000
Copper (pounds)	1,080,000,000	137,180,000
Gold (troy ounces)	4,657,000	96,270,000
Petroleum (barrels)	209,500,000	127,900,000
Silver (troy ounces)	57,138,000	30,850,000
Natural gas	.....	70,760,000
Lead (short tons)	372,000	32,760,000
Zinc (short tons)	252,000	27,280,000

In that year the United States led all countries in the production of coal, iron, copper, petroleum, natural gas and lead. Primacy in the production of the precious metals has been wrested from it, as regards gold by British South Africa and as regards silver by Mexico. In all the other products, however, its ascendency promises to increase rather than to diminish in the next few decades. Its greater area should enable it to produce more of some of these minerals than other countries, but its ability to produce more of all of them is a striking evidence of the wealth of its natural resources.

Progress in Manufacturing.

§ 24. The development of manufacturing in the United States has been part of a general movement in which all progressive countries have shared, consisting in the introduction of machinery to perform tasks that could not be performed at all or not nearly so cheaply by hand labor. The mechanical inventions of the nineteenth century, some of which have already been described, completed the industrial revolution begun in the eighteenth, by causing machinery to take the

place of hand labor in nearly every branch of industry. Most important were inventions connected with the generation and utilization of electrical power. The telegraph (1837), the telephone (1876), the dynamo (1857), the electric light (1878) and the electric car (1881) are a few of the inventions which promise to make the twentieth century the age of electricity as the nineteenth was the age of steam. Up to the present time the generation of electricity has required steam or water power. It has been, therefore, a secondary rather than a primary motor, and important because of the ease with which it can be transmitted great distances and applied in just the amount needed for each operation. By means of electricity sources of power, such as the Falls of Niagara, which were too great to be applied directly to the rotation of machinery, have been turned to a variety of uses. The power of Niagara now not only propels the machinery of numerous manufacturing establishments, but furnishes electric lights and force to run electric cars to towns within a radius of one hundred miles and more. In the West water power is also used to generate electricity to aid in mining operations at great distances.

The manufacturing progress of the United States is roughly indicated by the figures in the following tables, based on the census returns:

Statistics of Manufactures in the United States, 1849 to 1899

	Number of Establishments Reporting	Total Capital	Total (Average) Wage-earners	Value of Products
1849	123,025	$ 533,000,000	957,000	$1,019,000,000
1859	140,433	1,010,000,000	1,311,000	1,886,000,000
1869	252,148	2,118,000,000	2,054,000	4,232,000,000
1879	253,852	2,790,000,000	2,733,000	5,370,000,000
1889	355,405	6,525,000,000	4,252,000	9,372,000,000
1899	512,191	9,814,000,000	5,306,000	13,000,000,000

Hand and neighborhood mechanical employments were included among manufactures in these returns. Since 1899 statistics relating to manufactures proper have been separately compiled as follows:

Statistics of Manufactures in the United States, 1899 to 1909

	Number of Establishments Reporting	Total Capital	Total (Average) Wage-earners	Value of Products
1899	207,514	$ 8,975,000,000	4,713,000	$11,407,000,000
1904	216,180	12,676,000,000	5,468,000	14,794,000,000
1909	268,491	18,428,070,000	6,615,000	20,672,000,000

The most striking fact revealed by the last table is that while the number of establishments and of wage-earners increased 30 and 40 per cent respectively from 1899 to 1909 the value of products increased 81 per cent and the amount of capital 105 per cent. This affords indirect support to the statement that the country's progress in manufacturing has been for the most part progress in machine production. A more accurate notion of the growth of manufactures is to be obtained by studying the facts in reference to particular branches of industry.

Manufactures of Iron and Steel.

The principal change that has taken place in the iron and steel industry is a substitution on a large scale of steel for iron products. Thus in 1880 less than one-third of the 3,800,000 tons of pig iron produced in the United States was converted into steel; in 1910 nineteen-twentieths of the 27,300,000 tons produced was so converted. As late as 1878 more iron than steel rails were produced in the country; at present iron rails have practically gone out of use, as but a few thousand tons continue to be rolled each year in comparison with two to three million tons of rails of steel. Another change is in the process by which steel is made. Improvements in the open-hearth process invented by Siemens in 1867 have caused it to gain in favor in comparison with the Bessemer process. The following table illustrates this development:

Statistics of Crude Steel Produced in the United States (long tons)

	Bessemer Steel	Open-hearth Steel	All Other	Total
1890	3,690,000	513,000	75,000	4,278,000
1900	6,680,000	3,398,000	105.000	10,183,000
1910	9,410,000	16,500,000	178,000	26,088,000

The larger production of open-hearth steel is significant because it makes possible a utilization of ores which could not be economically treated by the Bessemer process.

Comparing the growth of iron and steel manufacturing in the United States with its growth in other countries, it appears that Germany alone has experienced a similar development. That country now contests with Great Britain for the position of second largest iron-producing country in the world. The United States produces more iron and steel than both of these countries together, while either one of them produces four times as much as any other single country.

Manufactures of Cotton.

The progress of the United States in iron and steel manufacturing has contributed greatly to its progress in other lines by cheapening machinery, but in no other has so favorable a showing been made. More typical of the general manufacturing development of the country is the growth of the cotton industry, a department in which the United States is still inferior to Great Britain. From using only about one-fifth of the world's annual cotton crop in manufacturing processses in the early seventies the United States has advanced to the position of using more than one-third in 1910. The same story is told by a reference to the number of spindles in American mills at different periods. The census for 1860 put the total at 5,000,000. By 1880 the number had doubled. In 1890 it was returned as 14,000,000, in 1900 as 19,000,000 and in 1910 as 28,000,000. In interpreting these figures it must not be forgotten that there has been a high protective tariff on cotton goods which prevents the foreign manufacturer from competing on equal terms in the American market.

Concentration in Manufacturing.

It would require too much space to describe in detail the growth of other branches of manufacturing. In every line in which machinery can be largely used the United States has made notable progress, with the general result that the country now depends less upon Europe than at any previous period for the manufactured goods that she requires and that her own manufactured products are coming to take a very important place among her exports. With the increased use of machinery in manufacturing has come a tendency toward concentration of management and resulting enlargement of the size of the business unit. The latest phase of this development is the so-called "trust." Competing firms have been

combined into great corporations, which in some cases have gained a virtual monopoly, at least for a time, of the branches of manufacturing with which they are concerned. The problems which have arisen in connection with this movement are discussed in Chapter XXV.

The Growth of Commerce.

§ 25. The growth of the foreign trade of the United States has been less striking than the development of home industries, partly because of the protective tariff which has restricted the importation of protected articles. The following table brings out the main facts in reference to the country's foreign trade since 1865:

Foreign Commerce of United States, 1866-1910

Years	Average Annual Value of Imports	Exports	Excess of Exports over Imports*
1866-1870	$ 427,000,000	$ 392,000,000	—$ 35,000,000
1871-1875	599,000,000	586,000,000	— 13,000,000
1876-1880	533,000,000	714,000,000	+ 181,000,000
1881-1885	720,000,000	834,000,000	+ 114,000,000
1886-1890	761,000,000	799,000,000	+ 38,000,000
1891-1895	844,000,000	1,009,000,000	+ 165,000,000
1896-1900	847,000,000	1,266,000,000	+ 419,000,000
1901-1905	1,064,000,000	1,570,000,000	+ 506,000,000
1906-1910	1,478,000,000	1,911,000,000	+ 433,000,000

* + = Excess of exports. — = Excess of imports.

Down to 1874 the value of imports usually exceeded the value of exports, chiefly because during that period foreign capital in the form of machinery, etc., was being imported, with which to develop the internal resources of the country. The excess of exports which has characterized the trade in every year except two since 1874 indicates the repayment in large part of the foreign capital invested here during the earlier period and an increasing investment of American capital abroad. In time, the returns from these foreign investments will exceed the new investments that continue to be made and imports will again be in excess of exports as they have long been, for example, in the United Kingdom.

Changes in Exports.

During the last thirty years the character of the country's export trade has changed materially as is shown by the following table:

Percentages of Total Exports from United States of Different Kinds of Products, 1880-1910

	Food Stuffs	Raw Materials	Manufactures	Total
1880	55.8	29.4	14.8	100
1890	42.2	36.6	21.2	100
1900	39.8	24.8	35.4	100
1910	21.6	33.6	44.8	100

The growth of export trade in manufactured products indicated justifies the belief that the United States is passing the period when her manufacturing industries as a whole require protection. That they are still protected by high tariff duties, however, must not be lost sight of in interpreting the facts shown, or the other fact, of which much has been made in recent discussions, that the exports of manufactured products now exceed the imports. This would certainly not be the case if the protective duties were removed.

Relative Importance of Commerce.

In comparison with European countries, and notably with the United Kingdom, the foreign trade of the United States is small in proportion to her population and wealth. Thus, in 1910, the *per capita* value of imports for the United States was $17.89 and of exports, $20.85, whereas the corresponding figures for the United Kingdom in the same year were $73.55 and $46.63. The reason for this is that the United States is itself adapted to the production of such a variety of products that different sections secure by means of internal trade most of the things which they require. No European country could afford to dispense with foreign products, since to do so would entail suffering upon whole classes of the population who would thereby be deprived of the very necessaries of life. It would entail hardship on the people of the United States also if foreign trade were interrupted, but the articles that would be missed would not be absolute necessaries, but for the most part comforts such as coffee, sugar, tea, cocoa and tropical fruits. The United States is more nearly industrially independent than any other important country in the world except China.

Conclusion.

§ 26. The principal facts in regard to the industrial expansion of the United States have now been passed in review. Among these facts the one most deserving of emphasis is the

debt which the country has owed at every stage of its progress to its natural resources. These have played an important part in developing in the typical American the restless energy, enterprise and mechanical ingenuity by which he is distinguished. At the same time they have offered an almost boundless field for the exercise of these qualities and have so richly rewarded effort that the standard of comfort and general well-being in the United States has been higher than in any other country in the world at all comparable with it in area. If the United States stood foremost among nations in the year 1910 in the production of corn, wheat, cotton, coal, iron, petroleum, copper and lead, it was owing chiefly to its natural endowment of broad and fertile acres, favorable climate and rich mineral resources. Until the present day successive generations of Americans have been able to reap large profits from the exploitation of these natural resources. The same process will continue for many years longer, but already there are indications that the richest treasures of nature in virgin land, primeval forests and mineral deposits, have been taken and that the people must accustom themselves to a slower rate of progress and a less generous response to their labor.

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CHAPTER IV

PRELIMINARY SURVEY OF ECONOMICS

Definition of Business.

§ 27. In the definition, "economics is the social science of business," the last word is used in its broadest sense. It denotes activity entered into, not primarily for its own sake, but for the sake of some indirect return. Business is thus, in a sense, "work" as distinguished from "play," but should not be thought of as necessarily disagreeable. It includes *activity,* that is, pleasurable mental or physical exercise, as well as *effort,* that is, exercise which involves some element of discomfort or pain. The rational man tries to arrange his work so that it will involve as little effort as possible.

Motives to Business Activity.

The motives to business activity are too familiar to require extended analysis. Men are so constituted that their happiness, their existence even, depends upon their having command over certain material commodities and personal services. They must have food, shelter and clothing in order to live. Such things satisfy their primary, physical needs. Next come the more complex wants which distinguish the civilized man from the savage. Men now desire tools, machines, conveniences for travel and social intercourse, and countless other things which contribute to the comfort of life. To create or obtain these material and immaterial conditions to well-being is the chief object of business activity. Primitive men went about the task directly. They killed game for food, erected their own huts and made their own garments from the skins of animals. Their civilized brothers have learned that business activity is more fruitful when it proceeds by roundabout and coöperative methods. They spend much of their time in fashioning tools, machines and other aids to production, and concentrate their attention on special tasks, relying on others and upon an elaborate system of markets and other facilities for exchange for most of the things which they require.

It is this indirectness of modern business activity which gives rise to many of the most difficult problems of economics.

Other motives to business activity (besides the desire to obtain control over commodities and services as a means to gratifying wants) are interest in work for its own sake, desire for the social distinction which attaches to large command over commodities and services, love of power and desire to serve the community. The strength of these supplementary motives varies with different men and in different occupations. The first is particularly prominent in connection with the work of artists, artisans and professional men, but it is by no means confined to such pursuits. In fact it is not far from the truth to say that business success in nearly all occupations is in direct proportion to the interest the worker takes in his work for its own sake. Desire for social distinction and love of power have little influence on the attitude of the average man toward the working life, but in the minds of those who rise to the highest positions in the business world these become dominant motives. It is only by reference to them that the laborious days of many of America's millionaires can be understood. Finally, the desire to render social service is already a strong motive with many persons and promises to become stronger as political and other opportunities to serve the community on terms that self-respecting men can accept are multiplied. There can be little doubt that the present trend of development in progressive countries is toward the exaltation of these supplementary motives at the expense of what may be called the mere bread-and-butter attitude toward the working life.

Characteristics of the Business Man:

§ 28. A first requisite to the understanding of business is a clear description of the business man. As found to-day in the United States and other countries in the same stage of industrial development, he has four traits which show themselves more or less clearly in all of his acts:

Self-interest.

(1) The business man pursues his own interest in his business dealings and assumes that others will do the same. This does not mean that he is steeped in selfishness, but simply that from his point of view "business is business," not play

nor philanthropy, and that he prefers to keep his getting separate and distinct from his giving.

The Larger Self.

(2) In judging of his own interest the business man thinks of himself not as an isolated individual, but as a member of different social groups, of which the family is by far the most important. He works not for himself alone, but for his family, his church, his union, or club, and his country. In different relations and at different times he identifies his interest with the interests of these organizations.

Desire for Independence.

(3) He desires to be financially independent. His ambition is to stand on his own feet, to make his own way and, when he accepts assistance, to give an adequate return for it.

Business Morality.

(4) He is controlled in his business dealings by the code of business morality that pertains to his class. As there is "honor even among thieves," so there are special standards that are accepted and lived up to by different business classes. These standards are not as high as would be desirable, but they are higher than current criticisms of business morality might lead one to think. To be maintained, however, in communities where class barriers are constantly giving way, such standards have often to be reinforced by legal enactments.

These four characteristics of the business, or economic, man are readily explained by reference to the evolutionary process which has brought industrial society to its present stage of development. Self-interest as a dominant motive, for example, is the direct fruit of that struggle for existence which is still in progress and which makes self-preservation the first law of nature to every organic species. In the case of men, sympathy and the sense of brotherhood have tempered self-seeking with consideration for others, but it still plays an important rôle in shaping human conduct.

Goods and Their Utility.

§ 29. The material commodities and personal services which are objects of human desire are conveniently designated as *goods,* while the capacity or quality in goods which makes them desirable is called *utility.* As used in economics these terms are stripped of the moral implications that sometimes attach to them in ordinary speech. Thus anything that is an

object of desire has utility and is a good, whether it be the hymn-book of the missionary or the whisky of the trader. This usage is designed to give greater precision to discussions involving these concepts and also to avoid the mistake of substituting the approval or condemnation of the actions of business men for the explanation of their actions—the primary task of economics.

Free Goods.

Not all goods figure in business transactions. Such things as sunlight, air and water are usually *free goods* for which no one expects or receives a return. They are supplied by nature in such abundance that there is enough of them for all and to spare. In general it may be said that *whenever the spontaneous supply of any good exceeds the desire for it, units of that good will be free.*

Economic Goods.

In contrast with free goods is that vastly larger class of commodities whose supplies are limited in comparison with the desire for them and which are therefore objects of economy. These are appropriately named *economic goods* and taken together constitute the *wealth* to secure which men engage in business. The characteristic of economic goods is that they have *value* as well as utility.

Value.

The term, value, is used in economics in two distinct, although closely related, senses, and this has given rise to a great deal of confusion. It may designate *the importance which a person ascribes to a unit of a good as a condition to the gratification of his wants.* This is value in the subjective sense and may be distinguished as *value in use.* In the phrases, " the value of a loaf of bread to a starving man is beyond calculation " and " no one knows the value of an object until he has to do without it," values in use are meant. The other sense of the term is that of *value in exchange.* When a bushel of wheat is said to be twice as valuable as a bushel of corn, it is the exchange ratio between the two that is referred to. Value in exchange is thus *the power of a good to command other goods in exchange for itself.* In future in this book the word value by itself will be used in the sense of value in exchange.

The three concepts, utility, value in use and value in exchange, are analyzed more fully in the chapters on Value.

Relation Between Utility and Value.

At this point it will suffice to suggest very briefly the relations which they bear to one another.

Free goods have no value in use, that is, single units of such goods have no importance as conditions to the gratification of wants. Thus a cubic foot of air in the room in which the reader sits has no value, although it has utility, because it would not be missed if withdrawn. Other air would rush in from adjoining rooms and from outdoors and the equilibrium of atmospheric pressure would be almost immediately re-established. If the room were made air-tight, however, and one cubic foot of air after another were withdrawn, the situation would be quite changed. Now, instead of being indifferent, each cubic foot of air would be of importance; and as one cubic foot after another was taken away this importance would steadily increase. As the air became thinner, discomfort, strangulation and finally death would ensue, unless the process of exhaustion could be checked. The reader would in this case ascribe high value to air, holding it as precious when at the last extremity as life itself. As this illustration indicates, value in use is variable and measures the extent of man's dependence *under the given conditions of supply* upon a unit of the good being valued.

Value in Use and Value in Exchange.

The relation between value in use and value in exchange is somewhat more complex. At the outset it is obvious that a good must have value in use to some one as a condition to its having value in exchange. Such value in use may be immediate, as in the case of goods finished and ready for consumption, or derivative, as in the case of tools and machinery. Unless it is present there can be no value in exchange for the simple reason that no one will give anything for something which no one considers of any importance. In the second place a good which has value in use to two or more persons so situated that they may have business dealings with one another and which is transferable will normally have value in exchange. This may be inferred from the definition of value in use, since a good which is of importance to the well-being of two or more persons can hardly fail to be worth something in other goods. Since value in exchange never arises in the absence of value in use, and, on the other hand, normally

results when value in use is present, there must be a close causal connection between the two. The explanation of this connection is deferred to Chapter VII.

Closely related to value in exchange is another familiar concept, that of *price*. As ordinarily used in business conversation *price designates exchange value measured in terms of money,* money being the universal medium of exchange. In the United States prices are expressed in dollars and cents, and the standard dollar is maintained, by means of regulations described in Chapter XIX., as the invariable exchange equivalent of 23.22 grains of pure gold. It follows that current American prices indicate the quantities of the commodity *gold,* for which units of the commodities priced would exchange on the given date in the given market. This is what is meant by the statement that "the United States has the gold standard." **Price.**

§ 30. The limitation on the supplies of goods which makes them economic, or valuable, may be due to the fact that they are unique, that they are controlled by a monopoly or simply that business activity is required to bring them into existence. Examples of absolute limitation are afforded by old coins or stamps, pictures by deceased artists, etc. Such goods often acquire with age a value out of all proportion to the esteem in which they were originally held.* Monopolized goods are equally familiar. Such are patented goods and those produced by means of secret processes. Most common of all are goods whose supplies are limited simply because business activity is needed to create them.

Production and Consumption.

The creation of economic goods, or, more accurately, of the utilities embodied in them, is called production. It is the chief purpose of business activity. Contrasted with it is *consumption, the utilization of goods as a means to the gratification of wants.* Consumption, as already suggested, furnishes the principal motive for business activity. The utilization of goods as means to gratification must, for the sake of clearness, be sharply contrasted with *productive utilization,* as for example of fuel or raw materials in manufacturing.

* Thus, a single letter of Martin Luther was recently sold for $25,000.

Such utilization, although sometimes described by the misleading phrase "productive consumption," is really production itself. It has nothing in common with consumption except that it too usually involves the destruction of the utilities in the goods utilized.

Every individual is of necessity a consumer of economic goods. If he be not a producer as well, the world is made poorer because of his existence. What he eats, drinks and wears is so much taken from the limited stock upon which all must subsist. Looked at from the point of view of the collective good, such an individual is either a recipient of charity, or a parasite, or both. In judging of a person's standing as a producer, full credit must be given for the creation of those immaterial goods upon which the world's happiness so largely depends. Services as well as commodities contribute to human well-being, and the field of economic study would be barren indeed if they were left out of account. Allowance must also be made for the part which property, like land, buildings, etc., plays in production. In the United States the moral sense of the community approves on the whole of the institution of private property and hesitates to condemn a person even though he lives in idleness, so long as he confines his consumption to the goods which the income from his property enables him to purchase. It would be inaccurate, therefore, in the present stage of economic development to characterize such a person as either a recipient of charity or a parasite, although the presence of such persons in society itself constitutes a strong argument against the continuance of the institutions which make their mode of life possible.

The State of Normal Equilibrium.

It is important for the student to form a clear mental picture of economic goods, or wealth, as an aggregate. To this end production may be thought of as a vast network of pipes all conveying products, *i. e.*, valuable commodities and services, to a central reservoir, from which they are distributed by means of consumption pipes to the individuals who make up society. Obviously if the streams of goods entering through the production pipes are just equaled by the streams of goods passing out through the consumption pipes, society's wealth is neither increasing nor decreasing. This is the situation de-

scribed later as that of *normal equilibrium*. It is full of scientific interest because while it continues economic forces just balance one another and opportunity is afforded to study the business world as it would be if all influences were permitted to work out their full effects free from disturbing changes.

Effort and Sacrifice Involved in Production.

§ 31. Most goods are limited in supply (and consequently valuable) simply because activity is needed to create them. To the extent that business activity entails effort, it is obvious why its products must normally have value. If they did not, business men would be under no inducement to produce them. But business is often merely a form of pleasurable activity. Why, it may be asked, are not goods which it is a pleasure to create, such as the products of talented artists, multiplied until they become free like the superabundant gifts of nature? The mere statement of the question suggests the answer. In the first place artistic talent is rare in comparison with the demand for artistic products. Even if all artists of first-rate ability were so constituted that they could derive unalloyed pleasure from their work during twenty-four hours out of every twenty-four, there would still be a scarcity of artistic products which would prevent them from being free goods. But no artist is able to work twenty-four hours in a day without incurring a sacrifice, and this is the second reason. Production and consumption are usually mutually exclusive and each takes time. It follows that the hours spent, no matter how pleasantly, in production, are hours subtracted from the consuming period. So long as the hours devoted to business activity afford more pleasure than would the same hours devoted to leisurely consumption, such activity involves no sacrifice. But as work is continued through the day it loses in interest, while leisurely consumption gains in attraction. In consequence after a few hours' toil the balance is usually turned and work, even though still pleasurable, ceases to be more pleasurable than consumption. In this situation to continue to produce is to make a sacrifice. As the economic man declines to put forth effort that is not rewarded in valuable products, so he declines to incur sacrifice that is not similarly recompensed. This fact limits the supplies of all goods except

those which nature furnishes in superabundance, and is one of the fundamental causes of value.

It might be thought that improvements in methods of production would increase the number of free goods, but thus far in the world's history population has increased and wants have multiplied even more rapidly than processes have improved and therefore the number of free goods has been growing smaller rather than larger. Even water, air and sunlight have now been transferred for people who live in cities from the category of free to that of economic goods which command a price.

The Cost of Production. The sum of the efforts and sacrifices that are involved in production constitute what is known in economics as the *cost of production.* They are the advances which must be recompensed in the value of the product, if actual loss in well-being is to be avoided. Under favorable circumstances such cost involves only sacrifices, that is, the doing of things that are less pleasurable than other things that might be done, but free from any element of pain. The tendency of evolution appears clearly to be toward bringing all costs to this level. As the same productive tasks are performed generation after generation human organisms become adapted to them so that children do with ease what their fathers could do only with difficulty and effort. If the work of the world were equally apportioned and the methods of production were not constantly changing so that muscles and nerves are required to adapt themselves to ever new situations a stage might soon be reached in which all production would be painless. This is one of the goals toward which economic progress should consciously be directed.

Expenses of Production. To be contrasted with the costs of production, which are psychological or subjective, are the *expenses of production,* that is, the advances made for materials, labor and all the other things which coöperate in bringing about productive results. The latter are objective and may be expressed as sums of money comparable with the prices received for products.

Work and Pay. § 32. Until the last one hundred and fifty years it was customary for most families to produce for themselves most of the things which they required. Under such conditions the

relation between work and pay was very simple. Each family got all or a portion of the identical things which it produced and was made to feel keenly its dependence upon its own exertions and upon favoring natural conditions. The introduction of machinery and the era of specialization to which it has given rise have changed this situation. At present most families produce but little for their own direct consumption. Those who dwell in cities and towns, and even those who dwell in the country, produce for the most part for the market and rely upon the market for the things which they require. Nor is this the only complication. The great majority in modern communities produce as hired workmen and have no direct share in what they produce nor knowledge of the conditions under which the product is marketed. They receive as their compensation wages or salaries agreed upon beforehand and shift to their employers responsibility for the success of the business enterprises in which they are engaged. Under these conditions the problem of work and pay has become one of the most difficult in the whole field of economics.

The World's Workers.

Foremost among the world's workers are the so-called *captains of industry* or *enterprisers* who direct industrial processes. Their remuneration comes to them as *profits* or balances left over from the sale of products after all of the expenses of production have been paid. Below them are the *lieutenants of industry,* the salaried managers and bosses, and at the bottom the rank and file of the industrial army which is paid its remuneration in the form of monthly, weekly or daily wages. A complete explanation of wages involves a study of the causes that determine the prices of the products of industry out of which money wages ultimately come, of the circumstances which determine labor's share of these prices, and finally of the terms on which money wages are exchanged for the goods which workmen consume, since these constitute the *real wages* of labor. Each one of these subjects of inquiry represents an obstacle which, as business is now carried on, intrudes itself between the products of labor and the pay of labor and causes wage-earners to feel themselves dependent for their remuneration upon the bargain which they make

with employers even more than upon the quantity and quality of their work or the favorableness of natural conditions.

Wages. Under the manorial system the most important influence fixing the pay of villeins was, as has been shown, the custom which determined how large an allotment of land the villein should receive and what services he should render in exchange for it. In the age of Elizabeth custom was supplemented by law and judicial regulation in the determination of this important matter. Not only were laws passed fixing the rate of pay for particular kinds of work, but the general rule was established that the justices of the peace should have power to regulate wages. Neither custom nor law now plays much part in the fixing of wages. Their determination is left to free bargaining in all Western countries, and it is difficult for most people even to entertain the idea of a different system. Of no country is this more true than of the United States. American courts have over and over again declared that the rights to liberty and to property guaranteed in all of the state constitutions embrace the right of employer and employee freely to contract or bargain, and that laws attempting to abrogate freedom of contract and to put in its place legal regulation as the determinant of wages are unconstitutional. As is pointed out in the chapter on Labor Legislation (Chapter XXX.) there is reason to think that judges have gone too far in their application of this principle, but its fundamental importance to the present industrial system is beyond question.

Property and Its Earnings. § 33. Next to the right freely to contract, the right to property is the one most jealously guarded by modern governments. The significant aspect of the right to property in this connection is the right to use it as a means of securing income. English and American law distinguishes between real and personal property. Economics, in rough conformity to this classification, distinguishes between land and other gifts of nature, and *capital goods,* that is, *products of past industry used in the present as aids to further production.* Both forms of property afford incomes to their possessors, that from land being known in economics as *rent* and that from capital goods as *interest.*

The problem of property and its earnings is quite as complicated as that of work and pay. In it are involved not merely economic, but moral relations of the profoundest significance. The economist must not merely explain the reasons for the earnings assigned to property and the circumstances that determine their amount, but he must also supply the basis for a wise decision as to the social utility of the system which permits these earnings to go to individual property owners. It is customary in treatises on economics to group together all of the problems connected with work and pay and property and its earnings into one great department of the study known as *Distribution*. This has to do with the causes which determine the division, or sharing, of economic goods among the individuals in industrial society. It is the concluding stage in the process of production, and a necessary preliminary to consumption.

Business Activity May Be Predatory, Not Productive.

§ 34. As stated in Section 30, production is the *chief* purpose of business activity. When production is carried on for the gratification, directly and immediately, of the wants of the producer, it is the only purpose. As business is now organized, however, production, as already pointed out, is usually for the market. The rewards of business activity are derived from the prices received for the commodities or services offered for sale. In consequence, the *immediate purpose* of the business man is not production, but financial return. Ordinarily, the business man secures his financial return by making a contribution to production. But unfortunately this is not the only way by which a financial return may be secured. A few examples of other ways in which business men secure incomes will make clearer the real relation between business activity and production.

Illustration.

Wheat farmers secure financial returns by producing all the wheat they can on their farms. The purpose of their business activity is clearly production. But between the wheat farmer and the consumer of wheat there are many middlemen. Among these there may be a wheat speculator who conceives the ambitious project of acquiring control of such a large part of the world's wheat supply that he can fix the price of this essential commodity. Many men at different times have under-

taken this task. Most of them have failed, but a few of them have succeeded and have reaped large fortunes. Men who make it their business to gamble in wheat can hardly be described as producers of wealth. It is not easy to draw the line between such men and others who are *bona fide* wheat dealers, but it is obvious that the line should be drawn and that the business activity of the gambler, however lucrative, is not production.

Again it is the business of the coal miner to produce coal. It happens, however, that the limited field from which anthracite coal is produced in the United States has come into the possession largely of the nine railroads which connect the coal mines with the market. As producers of coal, these railroads should operate their mines to their full capacity and supply the community at prices corresponding to the expenses of production. There is, however, an easier and even more certain way of deriving a financial return from this industry. It is for the railroads and the few remaining private mine owners to agree not to sell anthracite coal below a certain scale of prices and to limit the output of their mines to the quantities which the public will buy at these prices. So far as the members of a combination such as this continue to produce coal they are engaged in production. So far, however, as their business activity is devoted to perfecting the details of their combination and imposing limits on the amount of coal each shall produce with a view to maintaining prices at an unreasonably high level, it is not production. It is not easy to determine just how far a combination among producers may legitimately go in trying to eliminate the wastes of competition, but it is clear that when it makes prices unreasonably high and secures for its members financial returns far in excess of those enjoyed in other fields of business enterprise, it has gone to illegitimate lengths. Business of this sort is not productive but predatory.

The Remedy.

As a combination among coal mine owners may reap financial returns not by increasing production but by limiting it, so may combinations in many other fields. This is the essence of the monopoly problem, and as is explained in later chapters (Chapters XXIII.-XXV.) monopolies have become so common,

and so much of the best business ability of the country is devoted to perfecting the details of their organization and operation, that the statement that " the purpose of business activity is production " must be seriously qualified. The purpose of business activity *ought* to be production and whenever it is perverted to predatory ends the machinery of government must be set in motion to recall it to its proper function. It is this conviction that has led in the United States to the creation of special governmental machinery for regulating the railroads and other public service corporations and for preventing unreasonable practices on the part of the trusts.

The Methods of Economics: Deduction.

§ 35. The methods of economics are the same as those of other sciences, but the complexity of the phenomena treated makes great caution in the use of these methods necessary. The method upon which most reliance was placed by the older English economists was the deductive, or *a priori.* It consists, as treatises on logic explain, in reasoning from general propositions to their particular applications. In economics many of the most important of the general propositions or premises used are borrowed from other sciences (*e. g.,* psychology, law), and this makes some knowledge of these subjects an indispensable part of the mental equipment of the economist. When a premise is only roughly accurate, as is for example the assumption that wages are determined in the United States by free and equal bargaining between employers and employees in which each pursues his own interest with the same persistency and the same knowledge of the situation as the other, it goes without saying that conclusions will be only roughly accurate also, and will need to be tested if not corrected by experience. Since rough accuracy is all that can be claimed for most of the assumptions used in economics, the student must be particularly careful to weigh the conclusions reached at each stage of a long deductive argument, before he attempts to give them practical application.

Induction.

The inductive, or *a posteriori,* method is just the reverse of the deductive, since it consists in summing up a number of particular propositions in a general conclusion. By means of induction the detailed observations of like phenomena, which result from the field work of science, are grouped together in

general statements. The latter then serve as the premises for deduction, which carries the conclusion beyond the range of direct observation. To be sure of the accuracy of the result the scientist must appeal to observation again as a means of verification. The progress of science thus begins and ends with observation.

Statistics. Where the phenomena to be observed are as numerous as they are in economics, induction may take the form of *statistics*. Individual instances of the same phenomenon are counted and the result given in numerical form. By means of statistics a quantitative value is given to the conclusions of induction which justifies greater confidence in them. The statistical method is applicable as yet to only the simpler problems of the science, but such progress has recently been made in the collection and tabulation of statistics that there is every reason to anticipate results of steadily increasing importance from its use in future years.

The Laws of Economics. § 36. Much confusion exists in regard to the nature of the laws of economics. Some writers declaim against governmental policies which they do not like on the ground that they run counter to economic laws. Others are equally vociferous in affirming that economic laws cannot be changed by any act of the legislature. Such statements, unless carefully interpreted, tend to give an erroneous impression of the real nature of economic laws.

A scientific law is a statement of the relation that is believed to obtain between phenomena. This relation may be one of coexistence or of sequence. To illustrate, it is a law of economics that the prices at which identical units of any good are sold in markets between which such units may pass freely without any deterioration in quality or loss in quantity, will not for any length of time differ by more than the expense of carriage between such markets. This is a law of coexistence which is proved by deductive and confirmed by inductive reasoning. Again, it is a law of economics that an increase in the supply of the units of any good offered for sale in any market tends to lower the price that can be secured for it. This is a law of sequence. In both cases, it should be noted, there is implied or expressed the absence of disturbing

factors. Free communication between the markets must be maintained or the first law ceases to hold good. The second law describes a tendency. The increased supply may not actually cause a fall in price because it may be offset or more than offset by an increase in demand. In the statement of all economic as of all physical laws, it is taken for granted that other things remain the same, so that the influences upon which the operation of the law depends will have an opportunity to work out their normal effects.

To be contrasted with law in the scientific sense, are law in the moral and law in the juristic sense. A moral law states not what is but what ought to be. It is in this sense often that the term economic law is used when particular policies are said to violate it. It needs no argument to prove that such a use of the term has no place in a scientific treatise. Law in the juristic sense has already been defined (Section 2) and is not likely to cause confusion.

New Economic Conditions Give Rise to New Laws.

The statement that economic laws cannot be changed by legislation is literally true. It is also true, however, that economic conditions may be changed by legislation and that this may render entirely inapplicable economic laws that were previously significant. The development of the legal system of each industrial society makes necessary a continuous recasting of the laws of economics if that science is to remain in vital relation with actual business conditions. Old premises must be discarded and new premises in harmony with the new situation must be formulated. For this reason the implication of the statement "economic laws cannot be changed by legislation," that is, that legislation cannot give a new direction to economic forces and in that way modify old relations between economic phenomena, is quite misleading.

Outline of Book.

§ 37. In the following chapters the different divisions of economics are treated in the order suggested in the preceding survey. The subject of consumption is first discussed as an introduction to a fuller treatment of value and price. Then follow chapters on production and distribution, in which the leading principles of the subject are explained. These prepare the way for chapters on money and on problems of the day falling within the scope of economics. In the closing chapter,

on Economic Progress, suggestions scattered through the book are brought together with a view to showing the direction in which industrial society is believed to be moving.

Conclusion. As a conclusion to this preliminary survey a word of caution may not be out of place. Economics is an intensely human study. Dealing as it does with relations upon which the well-being of individuals and even of whole social classes depends, it makes constant appeal to the sympathies. This fact serves to make it interesting, but it has the disadvantage of appealing to the emotions, when emotion can only serve to bias the judgment, as well as when it may help to right wrongs and to promote progress. In studying the principles of economics, passion, except the passion for truth, is out of place. What is needed is the same calm judgment that has done so much to advance the natural sciences. The student should constantly have in mind the thought that his primary task is to explain existing business relations. He must understand how they came to be, and the forces that perpetuate them. He must detect the laws which govern them and try to see them in their proper perspective as features in a great evolutionary process. Only when he has fulfilled this purely scientific part of his task is he equipped to take up the discussion of practical problems and to throw his weight on this side or that in accordance with the dictates of his trained judgment. If he takes his task seriously he is very apt to discover that, as he comes to understand the interaction of economic forces better, he will be less confident in his demands for changes and less sanguine of his ability to accomplish even those modifications in law or practice which he still believes to be desirable. He need not fear, however, that the results of his study will be purely negative or that the subject will lose its fascination as he penetrates more deeply into it. It will remain to the end intensely human, and for every radical change that is discountenanced by better knowledge, a hundred minor changes will suggest themselves, many of which he may himself live to see fulfilled. In place of the feeling that the world is hopelessly awry, which so often oppresses high-minded people when they observe the injustices and inequalities to which the poor are daily subjected and the false and vulgar standards

that are too frequently characteristic of the rich, the conviction is likely to grow in his mind that an evolutionary process is going on which has for one of its results a gradual improvement in the conditions under which the mass of men live and work. This conviction should not and will not lessen in the least his desire to contribute his share toward a more rapid progress, but it will help to reconcile him to conditions which are only tolerable because they are temporary.

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BIBLIOGRAPHICAL NOTE

Because of the diversity of views which it presents, the literature of economics is likely to prove confusing to one who takes up the study for the first time. In order to see the relation among different writers and different schools, the beginner will do well, before he ventures far into the subject, to read a brief history of economic theory.

Haney's *History of Economic Thought* and Price's *Political Economy in England* may be recommended for this purpose. Cannan's *History of Theories of Production and Distribution* may then be read in connection with the works which it discusses. It will be found helpful to learn something about each author before reading what he has to say on any particular topic, and to this end dictionaries of political economy should be used. The standard English work is Palgrave's *Dictionary of Political Economy*. Readers of German should consult also Conrad's admirable *Handwörterbuch der Staatswissenschaften*, while readers of French will find Say's *Dictionnaire d'Économie Politique* helpful.

The principal writers who have contributed to the literature of economics available in English may conveniently be distinguished into four groups:

I. "The English classical school" is the term applied to Adam Smith (*The Wealth of Nations*), Malthus (*Essay on Population*), Ricardo (*Principles of Political Economy and Taxation*), and John Stuart Mill (*Principles of Political Economy*), and their followers. Rae's *Life of Adam Smith*, Bonar's *Malthus and His Work*, Hollander's *David Ricardo* and J. S. Mill's *Autobiography* may be read with profit in connection with the works of these authors.

II. A reaction against the doctrines and method of the classical school began about the middle of the last century, and to it the term

"historical school" is usually applied. The chief representatives of this school in Great Britain were Cliffe Leslie (*Essays in Political and Moral Philosophy*) and Toynbee (*The Industrial Revolution*). The school has had its greatest development in Germany, where it is now represented by Gustav Schmoller (*The Mercantile System*), Karl Bücher (*Industrial Evolution*) and other distinguished economists.

III. A reaction against the classical school in quite a different direction is usually spoken of as the "Austrian school" because of the large part which the Austrian economists, Carl Menger, Böhm-Bawerk, and Wieser, have played in its progress. In Great Britain it has been represented by Jevons (*Theory of Political Economy; Money and the Mechanism of Exchange*) and Smart (*Introduction to the Theory of Value; Distribution of Income; Economic Annals of the Nineteenth Century*). The important works of Böhm-Bawerk (*Capital and Interest; The Positive Theory of Capital*) and of Wieser (*Natural Value*) have been translated into English.

IV. Few contemporary British or American writers would care to be classed rigidly with either of the three schools referred to. For that reason it seems best to treat them as a separate group. Prominent among British economists are Marshall (*Principles of Economics; Economics of Industry*), Edgeworth (articles applying the mathematical method to economic problems in the *British Economic Journal*), Nicholson (*Principles of Political Economy; Money and Monetary Problems*), Cannan (*Theories of Production and Distribution*), Bonar (*Philosophy and Political Economy; Malthus and His Work*), Rae (*Life of Adam Smith; Contemporary Socialism; Eight Hours for Work*), Bastable (*Public Finance; The Theory of International Trade*), and Hobson (*The Evolution of Modern Capitalism; The Industrial System*).

Among American economists should be mentioned the late General Walker (*Political Economy; The Wages Question; Money; International Bimetallism*), the late Professor Dunbar (*Theory and History of Banking*) and the late Professor Sumner (*History of American Currency; Lectures on the History of Protectionism in the United States*). Prominent among contemporary writers are Clark (*The Philosophy of Wealth; The Distribution of Wealth; The Essentials of Economic Theory*), Patten (*Consumption; The Theory of Dynamic Economics; The New Basis of Civilization*), Adams (*Relation of the State to Industrial Action; Public Debts; The Science of Finance*), Hadley (*Railroad Transportation; Economics*), Ely (*Problems of To-day; Outlines of Economics; Monopolies and Trusts*), Seligman (*Essays in Taxation; The Incidence of Taxation; The Economic Interpretation of History; Principles of Economics*) and Taussig (*Tariff History of the United States; Wages and Capital; Principles of Economics*).

Although by no means exhaustive, the above list of authors and titles will serve to give some idea of the scope of the general literature of economics. It may be supplemented by the excellent bibliographies contained in the following works: Bowker and Iles, *The Reader's Guide in Economic, Social and Political Science;* Cossa, *Introduction to the Study of Political Economy;* Bullock, *Introduction to the Study of Economics;* Seligman, *Principles of Economics.*

Much of the contemporary literature of economics must be sought

in the monographic series published by the American Economic Association and by the leading universities. The principal periodicals devoted in whole or in part to economics are: *The American Economic Review* (American Economic Association, 1911-1912, 2 vols.); *The Quarterly Journal of Economics* (Harvard University, 1886-1912, 26 vols.); *Political Science Quarterly* (Columbia University, 1886-1912, 26 vols.); *Annals of the American Academy of Political and Social Science* (Philadelphia, 1890-1912, 33 vols.); *The Yale Review* (Yale University, 1892-1912, 20 vols.); *The Journal of Political Economy* (Chicago University, 1892-1912, 20 vols.); *The British Economic Journal* (British Economic Association, London, 1891-1912, 22 vols.); *The Economic Review* (London, 1891-1912, 22 vols.).

CHAPTER V

CONSUMPTION OF WEALTH

Characteristics of Human Wants.

§ 38. As one of the main divisions of economics, consumption treats of the relations between wants and the means to their gratification, goods. The characteristics of wants first demand attention.

It is a familiar fact of human experience that wants are indefinitely numerous. Every day, in the consciousness of every normal person, many wants for commodities and services are felt which must of necessity go ungratified. Upon this simple fact is based the law that *the consuming power of a community is indefinitely great.*

A second familiar characteristic of wants is that they are of very different degrees of intensity. This is realized as soon as one tries to arrange all of the wants of which he is conscious in a scale according to their importance. Such an endeavor reveals also the difficulty of measuring wants and the complexity of those which direct daily life. Corresponding to every want that comes within the scope of economics, is a utility or combination of utilities capable of gratifying it. The intensities of wants determine degrees of utility and thus, as is shown later, have great influence in fixing the values of the economic goods in which utilities are embodied.

The Law of Diminishing Utility.

§ 39. Variable as they are in intensity, all wants are subject to a law of gradual diminution and final satiety as consumption is continued. This may be illustrated by reference to food. A healthy American boy, given a breakfast of unlimited buckwheat cakes, attacks the first plateful with great avidity. His eagerness is reduced by each additional plateful, until his hunger is satisfied and he must reluctantly confess that he has had enough. This might be accounted for by the fact that the human stomach can only hold a certain amount of food at one time, but the same principle applies to all our wants.

As our capacity to enjoy food is limited, so is our capacity to enjoy clothes. A normal person feels intensely the need for one respectable suit of clothes, pair of shoes, etc. A second suit is less indispensable, but gratifies a lively desire. Additional suits gratify wants of steadily diminishing intensities, and in time the point of satiety is reached even by the most fastidious dandy. Less material wants obey the same law. Eyes tire of beautiful pictures or beautiful scenes. Ears are deadened in time by even the sweetest music. In short, each receptive faculty is subject to exhaustion and requires time to recuperate. Upon this psychological principle is based an economic law of considerable importance, that of *diminishing utility*. We may formulate it as follows: *The utilities of additional units of any good to any consumer diminish normally as his supply of units of that good increases.* This law assumes, of course, that no change takes place in the character of the consumer as his supply is being increased.

Present v. Future Goods.

§ 40. Another characteristic of wants of the greatest economic importance has reference to the time at which goods are to be consumed. The normal man lives in the present and will make greater sacrifices to insure the gratification of present than of future wants. Though very general, this characteristic of wants is more marked for some social classes than for others. It would not be far from the truth to say that young children and savages live entirely in the present; that the manual laboring classes, especially in climates where the winters are mild, look only a few months or a few years ahead in their economic calculations; that the great class of artisans and merchants plan with reference to their own lives and the lives of their children; and that the founders of large family fortunes include generations yet unborn in their view. It is in such psychological differences as these that economists discover a chief reason for the persistence of inequalities of fortune, even in new countries where the same opportunities for advancement are open to all.

This fourth characteristic of wants is the basis of a second law in regard to utility which, as is explained later (Section 175), accounts in part for the share of income called *interest*. If goods available for present consumption be called *present*

goods, and those to be available in the future—which may exist in the present as unfinished materials—*future goods,* the law may be formulated as follows: *The utility of future goods is less to the normal consumer than the utility of present goods of like kind and quality by an amount varying directly with the degree of futurity.*

Wants Are Determined by Social Standards.

§ 41. A fifth and last important characteristic of wants is that most of them are determined by social standards of taste rather than by the independent judgments of individual consumers. This is conspicuously true of wants for clothing, shelter and forms of amusement. That men—not to say women—dress with reference to the opinions of their neighbors, changing the style of their clothes, their shoes, their hats and even their collars, to conform to the vagaries of fashion, is a fact of familiar observation. There is a little more independence in the selection of dwelling houses, but here too the taste of the many is subservient to that of the few who form independent judgments. As regards amusements it is notorious that one fad follows another, bicycle riding giving place to golf and golf—for those who can afford it—to motoring.

This tendency of whole groups of people to want the same thing at the same time has its good and its bad economic side. Its advantage is that it permits large-scale production, which means usually production at less cost in human effort than production on a small scale. As an offset to this, great waste results from constant changes in fashion, not only because goods are produced which no one will buy, but because the machinery, tools and factories designed for their production must be thrown away or adapted to new uses. Moreover, deference to social standards encourages a deadening uniformity in habits of consumption that is inimical to progress. The most desirable situation would appear to be one in which fashions were fairly stable for the mass of consumers and in which a steadily growing minority asserted their independence of social standards and, by giving free play to their individual tastes and preferences, acted as pioneers in testing the merits of new and perhaps better ways of doing things. In most present day communities men conform to standards of fashion that change but little from year to year, while women are

more disposed, at least in their modes of dress, to assert their individualities. Improvement thus lies in the direction of encouraging men to be more individual in their tastes, and women to be more stable in their standards.

The Law of Demand.

§ 42. Closely related to the law of diminishing utility is the law of demand. Since successive units of any good gratify less and less intense wants, the desire for successive units diminishes. *Demand,* as the term is used in economics, denotes *effective desire,* that is, *desire coupled with ability to pay the current price for the desired object.* The general law in reference to demand is that the quantity of any good that will be purchased varies directly with changes in the intensities of the desires for the good of purchasers and inversely with changes in the prices that must be paid for it. To illustrate, the development of a new taste increases the quantity of the good capable of gratifying that taste that will be purchased, even though the price of that good remain as before. On the other hand, even though tastes remain unchanged, a fall in the price of a good will cause more of it to be purchased. In the first instance we may with correctness say that the demand has increased. Economists often say the same in the second instance, but there has really been no change in the demand, that is, the amount that will be taken *at a certain price,* but rather a change in the price that causes the demand to operate at a lower price level. The importance of this distinction will appear when we discuss the influence of demand and supply scales on prices, in a later chapter (Section 58).

Elasticity of Demand.

When the amount of a good that will be purchased increases or decreases readily in response to price changes, the demand is said to be elastic. This is the case with the demand for goods which are on the border line between necessaries and comforts. A slight fall in the price of such goods brings them within the reach of many consumers who before could not afford them. At the other extreme are the very cheap necessaries used by all classes, such as matches, salt, etc., in the United States. A fall in the price of such goods will not increase the quantity of them that will be purchased materially because every one is already consuming them nearly down to the point of satiety. Where the amount produced is variable,

the costs of transportation prohibitive of shipment to distant markets and the product itself perishable, it may, and often does, happen that the supply of goods for which the demand is inelastic exceeds the demand even at the lowest prices. At such times such goods become a drug in the market and any one may have them who will go to the trouble of carrying them away. This situation has sometimes presented itself in country districts in the United States with reference to such staple crops as potatoes and apples. The elasticity of the demand for a good thus has an important bearing upon the risks connected with its production. Elasticity of demand means stability of prices, inelasticity variability. To escape ruinously low prices in the case of commodities like salt, matches, etc., for which the demand is inelastic, has been a principal motive leading to the organization of some of the trusts discussed in Chapter XXV.

The Law of Variety.

§ 43. The normal purpose of consumption is to afford pleasure. Since each kind of good is subject to the law of diminishing utility, the pleasures of consumption may be increased by attention to the *law of variety*. If a man has only corn bread for breakfast, to satisfy his hunger he must push his consumption of it beyond the point where it affords him appreciable gratification. If to his corn bread are added bacon, eggs and coffee, he will be able to supply his body with adequate nourishment, without being obliged to eat corn bread after he has ceased to relish it. Eating has been taken to illustrate the law of variety because it is a universal experience, but the law applies equally well to other forms of consumption. It is really a corollary of the law of diminishing utility, since that law itself suggests the necessity of passing from one form of consumption to another to avoid the uncomfortable feeling of satiety. The ideal which the economic man should, and does unconsciously, have in mind is that of carrying each kind of consumption only to the point where it becomes less pleasurable than another form of consumption that may be enjoyed at the same expense. By changing to the new form of consumption whenever it affords the more pleasure, he is able to get the maximum gratification permitted by his income.

The great obstacle to varied consumption is the expense of a varied assortment of goods, and this is felt most keenly where men live in comparative isolation. Homesteaders in the western part of the United States, and others in similar situations, have to content themselves with rough and simple fare, clothing, etc., because it does not pay them to make, in the small quantities adapted to their wants, those little things which contribute so much to the refinement of life. Every advance which tends to bring people into closer industrial relations is favorable to a more varied consumption and consequently to an increase in well-being. Recent improvements in transportation facilities and means of communication encourage the hope that the varied markets of the city will one day be brought within the reach of every country family, while city families will be given opportunities to share the free goods of the country. Such an arrangement will add enormously to the general well-being.

The Law of Harmony.

§ 44. Next to the law of variety as a guide to judicious consumption stands the *law of harmony*. Harmony of color and form in dress is indispensable to a pleasing effect. In sculpture, painting, architecture and music, harmony is the all-important requisite. Even in eating harmonious combinations are important, as is attested by the pangs of indigestion which follow the consumption of such combinations as lemonade and ice cream or milk and lobster. In a comparatively new country like the United States the average man is more likely to ignore the law of harmony than the law of variety. The American tendency has been to exaggerate the importance of quantity and size to the neglect of the subtle harmonies which alone give permanent satisfaction. As a result there has been relatively little demand in the United States for the taste and talent of artists and skilled artisans and great demand for the uniform and too frequently ugly products of machinery. The development of large cities and the addition of new racial types to the population through immigration seem to be rapidly changing this situation to the advantage of all classes.

§ 45. A third aspect of consumption involves its relation to production. It is important, by attention to the laws of

The Law of Least Social Cost.

variety and harmony, to obtain the largest possible return from the stocks of goods available for consumption. It is equally important, while securing a given return of pleasure from consumption, to select those goods which can be produced with the least expenditure of effort. This is the *law of least social cost*. Its first application has reference to the natural conditions of a country.

Adaptation of Wants to Environment.

Economic progress depends in part on the adaptation of men's wants to the productive capacities of the particular regions which they inhabit. When colonists settle in a new country they bring with them a taste for the commodities they were used to at home. The soil and climate of their new environment are rarely suited to the production of these identical things, and hence their well-being depends for some time on the readiness with which they learn to like things for which the new soil and climate are suited. But men do not give up settled habits easily. They waste much time and effort in trying to make the land produce what they like, in place of learning to like what the land can best produce. Thus in America it took the early settlers a long time to substitute a diet of Indian corn for the diet of wheat and rye to which they had been accustomed in Europe, and many of their early disappointments were due to their unsuccessful efforts to produce the grains of the Old World.

Adaptation to Tastes of Producers.

A second application of the principle of least social cost refers to differences in the capacities and tastes of producers. Its importance may be shown by means of an example. Klotz is a poor German who has come to the United States with a talent for playing the violin and some knowledge of shoemaking as his stock in trade. He settles in a town where there is little appreciation for music, and must therefore become a shoemaker. The work is hard and uninteresting. Every day he thinks how much pleasanter it would be to play his violin, but he must stick to his last or starve. As time goes on the town grows and people come to be Klotz's neighbors who appreciate his violin playing even more than his shoemaking. Through their efforts a small orchestra is organized with Klotz as leader, and it is not long before fondness for the music of this orchestra has become so general that Klotz finds that

he can discard his leather apron entirely and give all of his time to the work that is his pleasure as well as his means of livelihood. By a change of taste in the community a discontented shoemaker is transformed into a happy musician. If the change has been genuine the community gets a full return for what it gives Klotz for his music. It affords as much if not more pleasure than did the shoes which Klotz used to make, but added to this pleasure of consumers is the newfound happiness of Klotz, the producer.

Progress Due to Changes in Taste.

As this illustration suggests, the things that people want and are willing to pay for are the things that must be produced. As consumers the members of society determine how they shall, as producers, spend their time and effort. As regards the necessaries of life consumers have perhaps no very great range of choice. They must learn to like those things that can be produced most easily in the given environment. If Klotz, the musician, gives up making shoes, some one else, who finds the task less irksome, must make them. But only a part of the community's income is spent for necessaries. If it prefers as comforts and luxuries articles which can be most advantageously produced in factories where automatic machinery impresses its standards of unvarying uniformity not only upon the products turned out, but also upon the operatives engaged in making these products, then the ranks of factory labor must be crowded and other occupations must be neglected. If, on the other hand, it prefers music and objects of beauty, each one, however simple, reflecting the individuality of the craftsman who has fashioned it with loving thought, then musicians, artists and artisans will find remunerative employment and quite a different tone will be given to the common industrial life. A community's taste thus gives direction to its work and decides for better or for worse the kinds of lives that its members shall live.

Adaptation to Laws of Production.

The law of least social cost has still another application. As is shown in a later chapter (Section 74) the principle that large-scale production is more economical than small-scale production is subject to important exceptions. In some cases, as, for example, in the production of agricultural products from a limited area, after cultivation has been carried to a

certain point, to secure more products requires more rather than less proportionate labor. From the viewpoint of social cost, it is obvious that increased consumption of articles of this sort is less advantageous than increased consumption of commodities whose cost decreases as the quantity grows.

The aspect that it is important to note, in connection with all of these applications of the law of least social cost, is that the reduction of cost which may be secured by a simple change of wants involves no corresponding reduction in the pleasures of consumption. Consumers continue to be as well off as before, while producers are better off. Thus changes in wants may add to economic well-being just as effectively as changes in methods of production and are quite as worthy of the attention of economists.

Economical Consumption.

§ 46. The most obvious relation between consumption and production grows out of the fact that consumers are also producers, and what they eat, drink and wear, the houses they live in and the amusements they enjoy, have a determining influence on their efficiency. The ways in which different forms of consumption affect productive efficiency are more properly treated in the chapters on production. At this point attention will be called merely to the economy of different lines of expenditure, especially expenditures for food.

Through ingeniously devised experiments physiologists have attempted to ascertain the amount of nutrition which a normal man requires when engaged in different kinds of work. It is customary to express this as so many calories of heat energy, including so many grams of the indispensable protein, or tissue-building compounds. The daily allowance made for the average man at moderate muscular work by the late Professor Atwater, an American authority in this field of investigation, was 3500 calories, including at least 125 grams of protein compounds. Men at hard labor and athletes in training require more, while brain workers appear to require somewhat less.

Nutritive Value of Foods.

Having established a standard, the next step is to analyze different kinds of food to ascertain their nutritive value. Economical consumption is secured when the cheapest combination of foods containing the required ingredients and both

palatable and digestible for the given consumer, is selected. No general rules can be laid down because of differences in the tastes and incomes of different consumers, but it is interesting to note the relation in which the food values of different foods stand to their cost. Professor Atwater drew up a table giving the quantity of each of several different kinds of food which might have been purchased for ten cents on a given day in New York City, and the amount of nutrition which each contained. From this it appears that, from the point of view of protein contents, the most economical foods were preparations of wheat, corn, beans, oatmeal, beef for stewing and salt cod, while, from the point of view of potential heat energy, the most economical were wheat flour, cornmeal, oatmeal, potatoes, beans, salt pork and sugar. The table seems, on the whole, to bear out the common impression that a vegetable diet is much more economical than a diet consisting largely of meat, and that the cereals, wheat, corn, beans and oats, are the most economical of the vegetables. While the results of Professor Atwater's investigations are highly suggestive, his conclusions are not universally accepted. More recent experiments have shown that a smaller amount of food, *completely masticated,* will maintain a man in fullest vigor. The difficulty of standardizing methods of cooking and of eating—both very important—make absolutely precise conclusions in this field unattainable.

Science has, until recently, done very little to aid the ordinary man to direct his consumption wisely and economically, although every investigation into the consuming habits of the poorer classes reveals the fact that, small as are their incomes, a considerable part is wasted because the most economical foods, clothing, etc., are not selected. The importance of this phase of domestic economics is now fully appreciated and there is every indication that rapid progress is being made, especially in the larger cities, toward more economical consumption.

Luxury.

§ 47. Closely related to the question of economy in consumption is the question of luxury. As wealth is now distributed, the majority of families in every community must be economical in order to secure with their limited incomes

the necessaries and ordinary comforts of life. Contrasted with them are the smaller number of families whose incomes are large enough to permit the enjoyment of luxuries. The question whether under such circumstances expenditure for luxuries is defensible is a question of morals rather than of economics, but the economist may well be called upon to decide which of the possible uses of surplus income available for luxuries is calculated to contribute most largely to the general well-being.

Definition of Luxuries.

To give precision to the discussion, *luxuries may be defined as all economic goods which are not necessaries.* Necessaries include not merely the food, clothing and shelter indispensable to life, but the entire complex of goods which each industrial class deems requisite to its industrial efficiency. The decision as to what these goods are is not to be made by reference to any absolute standard, but through study of each class affected. For example, manual laborers in the United States would certainly include tobacco among the necessaries of life and the economist should include it also in discussing their problems, for the simple reason that the average manual laborer would continue to buy tobacco even though his earnings were too small to allow him to buy in addition goods indispensable to his industrial efficiency. Tobacco is to him a "conventional necessary." A formal definition of *economic necessaries* would thus be: *the things absolutely essential to the industrial efficiency of the average family in the class considered, together with the things that are preferred above the absolute necessaries by the member of the family who directs its consumption.*

Of Necessaries.

Necessaries for All Before Luxuries for Any.

It is obvious from the above definition that failure on the part of any family to secure the necessaries of life is injurious, not only to it, but to the whole community. Underconsumption means under-nutrition and loss in industrial efficiency. If permitted to continue it must inevitably undermine the standards which make a family self-supporting and self-sufficient and reduce its members to dependency. The general interest will be furthered, therefore, by acceptance of the maxim: the consumption of luxuries should be indulged in only after all are provided with necessaries. This

is a moral principle that commends itself to all civilized communities and finds indirect expression in positive law. The obstacle to its practical application is the difficulty of supplementing the incomes of independent families, when those incomes are insufficient, without undermining their independence and permanently lowering their earning power. Among the measures that have been taken to surmount this obstacle the principal are plans of industrial insurance, by means of which the families of workingmen are assured necessaries in times of illness, etc., and the erection of public employment establishments in which those in search of work may earn necessaries during periods of enforced unemployment.

§ 48. In the United States, in times of ordinary prosperity, all but the very lowest in the industrial scale have not only sufficient income to provide for necessaries, but some surplus income. Assuming that necessaries are assured to every one, the question arises as to the use to which surplus income may most economically be put. According to strict utilitarian doctrine—which is another name for economic morality—the happiness of any one person is just as important quantity for quantity and quality for quality as the happiness of any other, and hence surplus incomes should be used so as to add equally to the happiness of all. This suggests that no one is justified in spending income for a luxury for himself or his family which will afford less happiness than would the same income spent for a luxury for some one else or for some other family. The difficulty is that independent, self-respecting people do not want luxuries bought with other people's money. If the pleasures connected with economic goods are to be equalized it must be in some roundabout way. Without trying to exhaust the subject a few words may be said about each of the ways in which surplus incomes are usually employed.

Fallacies Respecting Luxuries.

Notwithstanding the denunciations of moralists it is still true that surplus incomes are largely expended on luxuries for the gratification of the spender himself, his family, or his immediate friends. In justification it is often urged by superficial observers that such expenditures "make work" for others and hence benefit them indirectly if not directly. This

argument can be presented with a good deal of plausibility so long as only the one use of the income under consideration is thought of. A wealthy man gives an elaborate ball. In connection with it he employs decorators, caterers, waiters, etc. Those whom he invites employ dressmakers, hairdressers, etc., in their preparations for the event. The expenditure on the ball thus causes an active demand for labor of various kinds, which, but for the ball, would not have been required. Those who secure employment certainly regard such an entertainment in the light of a blessing. But consider other uses to which the money spent upon the ball might have been devoted. Suppose that it had been given to a wisely administered charitable society for use in improving the condition of the poor. In such an event it would have been spent also largely for food, clothing and personal service, " making work " for numerous individuals who might otherwise have sought in vain for remunerative employment. So far as its effect on the labor market as a whole is concerned it would certainly convey as much benefit in the second case as in the first. Similar results would follow its expenditure in any other rational way. Even if it were not spent at all, but allowed to accumulate as a deposit in a bank, there is reason to think that it would " make work " for quite as many people as when used for the ball. Banks do not keep their funds in their vaults, but lend them out at interest to business men who employ them in connection with their businesses. This usually means buying materials, hiring workmen, etc., and has as favorable an effect on the labor market as luxurious expenditure. The " make-work " argument thus applies with equal cogency to whatever use is made of surplus income. The real contrast presented by the use of the income for a ball and its use to improve the condition of the poor, is between the slight and transient addition to the pleasure of guests already satiated with similar means of diversion, which the ball affords, and the large and permanent addition to the security and happiness of the victims of misfortune, which results from wise charity. It follows that selfish luxury is as devoid of economic, as it is of moral, justification.

But, it should be added, there are luxuries and luxuries.

Those who have large incomes to administer may contribute much to social progress by setting standards of rational enjoyment for others to imitate. The rich man who wishes to live in a grand way does the community little good if he buries himself like a hermit in an ugly palace. If, on the contrary, he builds a beautiful house to which a large and democratic circle of friends is welcome, he may be quite as useful as though he gave all his income to charities, especially charities of the soup kitchen type which demoralize those they are trying to benefit. **Defensible Luxury.**

A third use which many economists urge as the best to which surplus income may be put, is saving and investment. In contrast to purely selfish luxury, saving deserves all of the praise it has received. The wise investment of savings adds to society's material equipment of tools, machinery, buildings, etc., for the production of economic goods. In this way it lightens the toil necessary to the realization of a certain productive result. Even more important is the fact that, through saving, a family may make itself economically independent, not in order that it may turn its attention from useful industry, but that it may devote itself to the work that most needs to be done even though the world has not yet learned to appreciate it and remunerate it in proportion to its importance. **Saving *v.* Spending.**

It may be doubted whether, under present conditions, saving beyond what is necessary to assure economic independence benefits the world as much as would wise spending for some social object. Great wealth is almost if not quite as demoralizing as great poverty, and the man who really desires to contribute to social improvement will put a check upon his accumulations and give his time and thought to spending such income as he does not require for his own family in ways that will benefit others. If he continues to save he must finally, in drafting his will, face the problem of the best use of wealth. Passing on to his heirs more than is necessary to insure them economic independence is merely evading an issue which each should face squarely for himself.

§ 49. It is much easier to ascertain how men earn their incomes and how much their incomes are, than how they

Statistics of Consumption.

spend them. In fact few families have themselves very exact knowledge in regard to their expenditures. They know how much they pay for house rent, perhaps how much they spend for coal and gas, but few keep accurate accounts of their expenditures for food, clothing and the incidentals that are an important element in all but the humblest budgets. Nevertheless several useful investigations into statistics of consumption have been made and certain general relations have been established. About the middle of the last century inquiries were made in Belgium and Saxony into the expenditures of different families, and upon them two economists, Ducpétiaux and Engel, based the following table showing the proportional expenditures of different classes for different purposes in the two countries:

Table of Expenditures of a

	Self-supporting Laborer's Family in Belgium		*Self-supporting Laborer's Family in* Saxony		*Middle-class Family in* Saxony		*Well-to-do Family in* Saxony	
Food	61%		62%		55%		50%	
Clothing	15		16		18		18	
Rent	10	91%	12	91%	12	95%	12	90% 85%
Fuel and light	5		5		5		5	
Tools, etc.	4							
Education	2		2		3.5		5.5	
Taxation	1		1		2		3	
Care of health	1		1		2		3	
Personal service	1		1		2.5		3.5	

This table does little more than to confirm general observation, but when it is considered how often general observation leads to false conclusions even such confirmation is of value. Wage-earners spend nearly all of their incomes in providing for the gratification of their merely physical wants. They have little left for the higher needs of their natures, and if these are to be cared for it must be through community action realizing itself in free public schools, free playgrounds and parks, free concerts, free lectures, etc. People in more comfortable circumstances spend relatively less for food and relatively more for education and personal service. Expenditures for clothing and rent show no diminution, probably because clothes and

houses serve as marks of social position and the desire for social esteem is so strong that a large part of surplus income is devoted to keeping up appearances.

A more recent investigation into statistics of consumption was made by the United States Department of Labor to ascertain the importance of different kinds of commodities in the everyday life of representative families. The results of this inquiry are summarized in the following table: **Consumption in the United States.**

*Expenditures of Representative American Families**

Family income	Percentage of Expenditure for				
	Food	Rent	Clothing	Fuel and Lighting	All Other Purposes
Under $200	49.6	15.5	12.8	8.1	14.0
$ 200-300	44.3	14.7	14.3	7.6	19.1
300-400	45.6	15.0	14.1	7.0	18.3
400-500	45.1	15.3	14.4	6.6	18.6
500-600	43.8	15.2	15.3	6.6	19.1
600-700	41.2	15.5	15.9	5.9	21.5
700-800	38.9	15.6	16.3	5.3	23.9
800-900	38.1	16.1	15.1	5.3	25.4
900-1000	34.3	14.9	16.8	4.7	29.3
1000-1100	34.7	15.1	17.5	4.5	28.2
1100-1200	30.7	12.2	16.5	3.9	36.7
1200 and over	28.6	12.6	15.7	3.0	40.1
All sizes	41.1	15.1	15.3	5.9	22.6

This table is based on a study of as many as 2562 family budgets and is even more suggestive than the former because of its more careful classification of expenditures according to the family income. It indicates the same general relations. Expenditures for food diminish relatively as the family income grows, and the difference is made up by a relative increase in the expenditures for the gratification of other than merely physical wants. Expenditures for rent bear a fairly constant relation to the total income, while expenditures for clothing show a tendency to increase slightly.

In addition to these general studies of expenditures in different countries, special studies have been made for particular cities which bring out striking differences in the habits and standards of different racial groups. Thus Miss Byington, in comparing the budgets of the families of steel-workers in **Other Investigations.**

* Seventh Annual Report of the Bureau of Labor, 1891, p. 864.

Homestead, found that colored families with an average weekly expenditure of $12.39 spent 19.6 per cent of this amount for rent and 39.1 per cent for food, while Slavic families with about the same expenditure ($13.09) spent only 15.3 per cent for rent and 45.7 per cent for food. Notwithstanding these differences in details, the average expenditure for the most important item in every wage-earning family's budget, food, is shown to be strikingly uniform for American families in the same income groups. Thus the Bureau of Labor investigation of 1903, covering 5920 families with incomes from $600 to $1000, found that the proportion of the income spent for food ranged from 39.9 to 43 per cent. Mr. Chapin established even closer limits for families in the same income group which he studied in New York City, their expenditures for food ranging between 44.3 and 45.6 per cent. The average found by Miss Byington for her Homestead families in this same group was 42 per cent.

Family Budgets.

There is perhaps no branch of economics in which intensive work yields a larger harvest of suggestive returns than the study of statistics of consumption. Any one may enter this field by making a study of the expenditures of the family group to which he himself belongs and by persuading friends to keep budgets of their expenditures in accordance with some simple but uniform plan. Residents in Social Settlements may do useful work by supplying their neighbors with handy account-books and directing them in keeping records of their expenditures. Such records are valuable for comparison with other calculations, and also the habit of keeping them will be found a help in determining how income may be best employed.

Two Aspects of Consumption.

§ 50. The subject of consumption may be looked at economically in two different ways. The more familiar way is to regard it as the goal of economic activity and to show how the desire for goods causes them to have value and price and induces people to engage in industrial pursuits. Though perfectly valid so far as it goes, this aspect of consumption must not be exaggerated. The other way of looking at it is as a means of restoring energy. The consumption of goods necessary to efficiency is not merely an end; it is a means to further

production. Human beings are not mere goods-consuming automatons. They enjoy activity for its own sake, and the more highly developed they are, the more they are likely to look upon goods as means to the forms of activity they prefer, rather than as ends in themselves. It follows that desire for goods is only one, if the most important, of the motives which control the economic man. Desire for activity is another motive which in individual instances quite outweighs the desire for goods.

Conclusion.

At the present stage of human and social development the former of the above ways of regarding consumption is believed to be the more accurate and helpful to an understanding of economic phenomena. The latter is, however, applicable already to many individuals and classes and must be kept in view in connection with all problems looking to the future. Economic phenomena are related not as cause and effect simply, but in a continuous circle of causation. Men produce, that is, expend energy, in order that they may consume; but they consume, that is, store up energy, in order that they may again plunge into the activities of production. The ideal round is one in which the pleasures of production are as definite and real as the pleasures of consumption. Unfortunately the conditions of production are still so arduous for the mass of men that work is usually entered upon unwillingly and only under the stimulus of the prospect of pay. In the thought of the average man consumption, or the desire to consume, thus stands as the motive for production. In the following chapters the point of view of the average man is accepted, and economic phenomena are explained by reference to it. The other point of view, which finds work a joy and goods merely aids to further work, receives attention in the closing chapter on Economic Progress.

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CHAPTER VI

VALUES IN USE

Two Senses of Value.

§ 51. As already explained, the term value is used in economics in two different senses, one subjective, or pertaining to the relation between men and goods, and the other objective, or pertaining to the relation between goods and goods. In this chapter we shall analyze the principles which govern values in use, or values in the first sense.

Values in Use Relative.

The values in use of different goods depend on the intensities of the wants which they are to gratify. If each consumer had but a single unit of each kind of good and that good were capable of gratifying only one want the valuation process would be comparatively simple. By arranging his wants in a scale in accordance with their intensities, he could determine the comparative values of the corresponding goods. He would not be able to gage exactly the importance of the different goods, but he would be able to judge as to their *relative* importance. Thus if good *a* gratified a more intense want than good *b*, he would regard it as more valuable than *b*. If the want it gratified were more intense than the wants gratified by both goods *b* and *c*, he would regard *a* as worth more than *b* and *c* together.

Value in Use Depends on Marginal Utility.

In real life the problem for the consumer, even the isolated consumer like Robinson Crusoe, is never so simple as this. Most wants require several units of the appropriate good or combination of goods to gratify them. On the other hand, many goods are capable of gratifying a number of different wants. On what principle are units of commodity valued when a number of units are used by the same consumer? As explained in the last chapter (Section 39) when a number of units of a good are available the principle of diminishing utility comes into play. The wants to be gratified by successive units of the good may be arranged in a scale according

to their intensities. The first units of the good will be used to gratify the higher wants on the scale. Successive units will gratify less intense wants. If the supply of units of the good is limited, the want to be gratified by the last available unit will have an appreciable intensity. This intensity determines the utility of the least important unit in the supply, which will be referred to in future as the *marginal utility*. A little analysis of his own valuations will convince the reader that when he has to value a unit of a good of which a stock is available he values it according to its marginal utility, that is, according to *the least utility to him of a single unit of the good under the given conditions of supply*. As a rational person he must value it in this way. All of the units being, by assumption, alike, the same valuation must apply indifferently to each of them. If one is taken away, it is the least intense want dependent on the available supply of the good that will go ungratified. If then this last unit is returned it is this least intense want that will be gratified. Thus it is the marginal utility that is gained or lost by the addition or withdrawal of a single unit of the supply. The value or importance of a unit of the good is, therefore, measured by its marginal utility. It is because of this fact, that is, that consumers habitually measure the values in use of different goods by their marginal utilities, that low instead of high values are ascribed to such indispensable things as wheat, salt, sugar, etc. Such commodities would be immensely valuable if the available supplies of them were not enormously great. As it is, in normal times, their marginal utilities and consequently their values in use are low. In this explanation we have spoken of marginal utility as a conception applying to the least important unit of a *stock* of a good. But when there is only one unit of a good available then the utility of that unit is necessarily the marginal utility. We may therefore formulate our conclusion as a general law, as follows: *the values in use of economic goods are measured by their marginal utilities.*

§ 52. In order not to misunderstand the above law the reader should carefully note its limitations. In the first place it refers to the valuations of an isolated individual uninflu-

enced by the opinions of others. How the complications of an organized industrial society affect the situation is considered later (Section 55). Second, calculations of marginal utility or values in use are always prospective. The consumer anticipates wants that he expects to feel in the future, judges by past experience what goods will serve to gratify them and estimates the importance of these goods by reference to his anticipations. As "there is many a slip 'twixt the cup and the lip," so calculations of marginal utility may prove to have been quite inaccurate when the goods to which they apply are actually consumed.

Limitations on Above Law: Calculations Always Prospective.

A third limitation is that the law "values in use are measured by marginal utilities" refers to the valuation of single units of goods. This corresponds to our habitual mode of making valuations. When iron is said to be less valuable than gold it is meant that, under the ordinary conditions of supply, a pound of iron is less important to man than a pound of gold. Every change in the supply of an economic good of course changes its marginal utility and therefore its value. This fact makes the value of a single unit multiplied by the available supply of units quite misleading as an index of total importance. Multiplying the slight value of a pound of iron by the number of pounds in existence would give a total representing very inadequately the value of iron to man. To obtain even an approximate notion of the importance of the total supply of a commodity we should have to add together the separate utilities of all the different units used by man. Since calculations in regard to utilities assume even approximate precision only when marginal units of different goods are being compared, such a summing up of utilities could not in practice be made. It is evident from general considerations, however, that the total utility of iron, so determined, would vastly exceed the total utility of gold. The total utilities of indispensable free goods, like air and water, calculated in the same way, would, of course, exceed the total utilities of economic goods, like gold and iron, which, though highly important, are yet not absolutely essential to human life.

Valuation Refers to Single Units, not Whole Stock.

A fourth and last point, closely related to the foregoing, is that the marginal utility which measures the value of a single

Marginal Utility Always Affected by Amount of Supply.

unit of a good is large or small depending upon the number of units that are available. The circumstances that control the supplies of economic goods determine values in use quite as much as the want scales of consumers. Air and water gratify intense wants but their marginal utilities, and therefore their values, are usually negligible because they are superabundant. Other things, like old manuscripts or rare jewels, gratify wants that are much less intense, but because of their rarity have high marginal utilities and therefore values. This connection between the scarcity of economic goods and their values is sometimes called the paradox of value. As students of economics, we must always have it in mind to avoid drawing false conclusions in reference to the relations between men and goods. Thus a mistake that is very commonly made in discussing economic goods in the aggregate, or wealth, is to assume that an increase in wealth is necessarily a good thing for mankind. Such an increase is a good thing if it results from a multiplication of want-gratifying goods. It may result, however, from changes which merely enhance the values of certain goods by limiting their supplies. Thus a wheat corner might increase the value of a country's wheat supply, and thus enlarge this item in the wealth of the community, although it lessens rather than increases the general well-being. Or, to give a more extreme example, it is conceivable that a group of men might secure a monopoly of the available sources of water supply for a city and by adopting a selfish policy make highly valuable what under a different system would be virtually a free good.

Value and Marginal Cost or Disutility.

§ 53. In the preceding section the valuation process has been considered from the point of view of the gratifications which goods afford as they are consumed. Another point of view is that of the pains and sacrifices involved in producing them. To simplify the problem, consider the mental processes of a man living in isolation, like Crusoe on his island, when valuing the products of his own toil, as, for example, the arrows which he must laboriously whittle out as a means to procuring game. Besides the utility of these arrows there would be in his mind vivid associations connected with the *cost* of making them. In fact until he became quite expert with

the bow and could tell quite accurately what an arrow was worth to him in game, he would probably value his arrows in accordance with the labor they cost him. One arrow would be worth perhaps an hour's labor. But an hour's labor, from the point of view of the sensations that accompany it, may mean anything from the pleasurable activity of the first hour after a refreshing night's sleep, to the painful drudgery of the last hour of the day when all of the faculties are crying out for rest. According to which of these standards is the importance of an hour's labor gaged? As on inquiring before which utility determines value, so now on inquiring which *disutility* of those which stand for the different hours of work throughout the day determines cost, we must consider what Crusoe would gain if an hour's toil were spared him. Obviously, he would gain most by stopping work an hour earlier. It is the last hour of the day that involves most disagreeable effort or that has the greatest disutility. If an hour is to be cut off from the working day it is from this trying last hour that one would wish to be relieved. It stands in the mind for the *cost* of an hour's work, and in valuing an arrow according to its cost it is to it that Crusoe's thoughts would revert. If we call the disutility of this last hour the *marginal disutility* we may say that *the value of a good, judged from the point of view of cost, is determined by the marginal disutility of the labor time necessary to its production.* Men who, like Robinson Crusoe, produce for themselves the things which they consume, may value their possessions either by reference to their marginal utilities or to the marginal disutilities of the labor involved in their production. It is hardly necessary to add that in practice the determination of the cost of an hour's labor is comparative rather than absolute, just as is the determination of the utility of the resulting good.

Since the disutility of each hour's work is compensated by the utility of the product resulting from it, the tendency of the economic man is to continue his labor until the disutility it entails is just balanced by the utility it affords. Every addition to his labor increases its disutility; every addition to the product, according to the familiar principle, diminishes its utility. At some point disutility will cease to be fully

compensated for in utility, and at that point labor must stop if an economic loss is to be averted.

Graphic Representation of Relation Between Utility and Disutility.

§ 54. The contrast between gratifications and sacrifices indicated in the above analysis of value may be illustrated graphically. Let distances along the line OX in the following figures represent either units of commodity or hours of labor, and distances along the perpendicular line OY represent the utilities of different units of commodity or the disutilities of hours of labor. Erecting side by side on the line OX and parallel to the line OY narrow parallelograms representing the diminishing utilities of the successive units of commodity resulting from a day's work, we have the following figure:

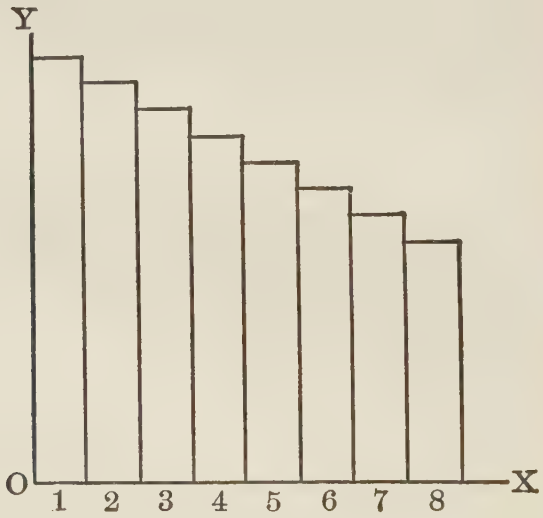

FIG. 1.

The area of all these parallelograms taken together represents the total utility of all of the products of the day's labor, and it will involve no very serious error to represent this total area as bounded by a curve extending from the Y axis to the parallel line representing the marginal utility produced during the day, as follows:

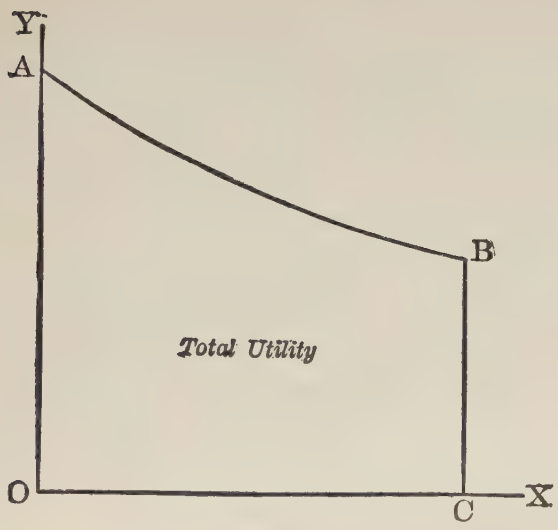

Fig. 2.

In a similar way narrow parallelograms representing the increasing disutilities of successive hours of work during the day may be erected side by side on the line OX and parallel to the line OY, giving the following figure:

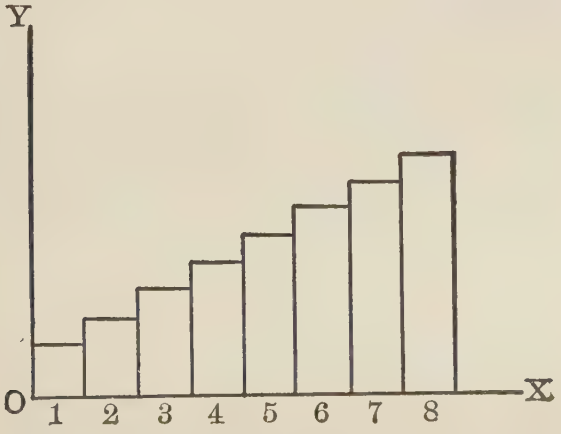

Fig. 3.

As before, this may be simplified by combining the narrow parallelograms into an irregular area bounded by a curve, as in Figure 4:

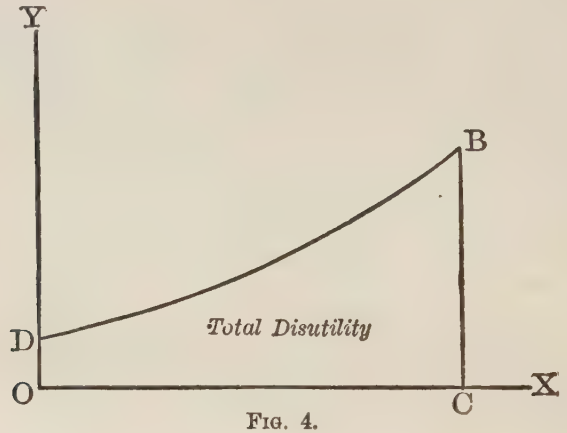

Fig. 4.

If the exact equilibrium between marginal utility and marginal disutility, which is the goal of economic conduct, be achieved, the lines BC in Figures 2 and 4 will be of the same length, and the figures may be superimposed as follows:

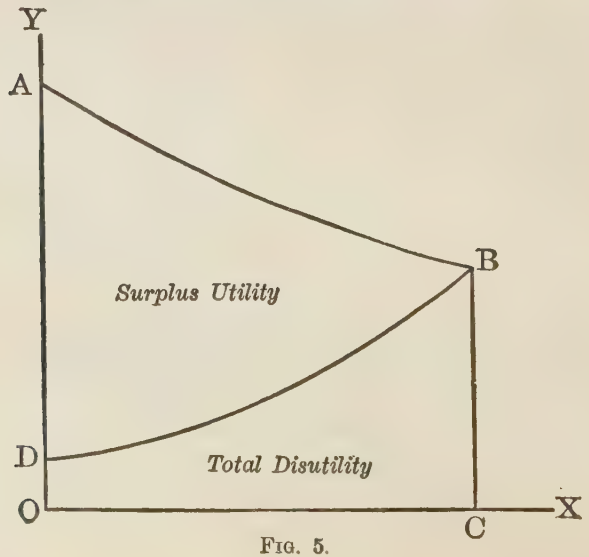

Fig. 5.

The "surplus utility" area, A B D, in this figure represents the gratification an isolated producer derives from the consumption of the fruits of his toil over and above that which compensates him for his sacrifices in production. From the point of view of economics, the existence of this surplus is what makes life worth living. **Surplus Utility.**

As in all uses of the graphic method to illustrate economic principles, the above diagrams involve assumptions in regard to the *exact* measurement of utilities and disutilities, which are untrue to the complex facts of life. Their sole purpose is to help the reader to visualize the contrast between utilities and disutilities and the tendency of economic men to stop work, so far as they can control the length of their work day, when its continuance involves a greater sacrifice than will be compensated by its reward in products.

§ 55. The valuations of a Crusoe are necessarily crude and inaccurate because he has only his own judgment and experience to rely upon. In industrial society the valuations of each individual are supplemented and corrected by the valuations of other individuals. Judgments in regard to the importance or marginal utilities of different goods are collective or social and for this reason are more precise than they can be for men in isolation. **Marginal Utility and Value in Industrial Society.**

The simplest case of social valuation is presented in connection with a commodity like wheat flour, which serves a variety of uses in every household and the want for which on the part of the normal family is quite elastic. According to the familiar principle of diminishing utility each family's consumption of wheat flour may be arranged in a scale in which the high utilities of the more important units will come first and the low utilities of the less important units last. At the very end will stand the marginal utility of the least important unit consumed. As all families consume numerous units of wheat flour, and as this consumption is carried in most families not to the point of satiety, but only to the point at which the sacrifice involved in paying for additional units is not fully compensated by their utilities, all families value a unit of such flour approximately in proportion to its marginal utility to themselves. In this case all consumers contribute

something toward the determination of the social valuation upon which depends the relative importance of a unit of wheat flour in comparison with units of other goods.

Marginal Utility Estimated by Marginal Consumers.

While the consumption of wheat flour is probably not carried to the point of satiety by most families, the consumption of many cheaper commodities habitually is. A commodity like salt, for example, is not an object of painstaking economy to the well-to-do, but virtually a free good. Its marginal utility to the average family is a negligible quantity because it is consumed as a matter of course down to the point of satiety. The value of such an article is determined by its marginal utility not to the well-to-do, but to the very poor, to whom even the small price of a bag of salt is a burden, and to those who use it in connection with industrial purposes (*e. g.*, in the salt-fish industry, in removing ice from the tracks of street railways, etc.). The value ascribed to it in these connections determines its importance in comparison with other commodities. In the same class as salt are matches and the other cheap articles which are consumed daily by rich and poor alike. Such articles are no longer objects of economy to the well-to-do, who pay for them what market conditions require and would continue to buy the same quantities, that is, all they have any possible use for, even if the prices they had to pay were doubled or trebled. In such cases values, or the comparative importance of units of different goods, are determined by the marginal utilities of single units of such goods, not to each individual consumer, but to consumers generally. Well-to-do consumers exert no influence because they consume all that they wish with little reference to what they must pay for such goods. This leaves the task of valuation to consumers who are less well off and to others who use the articles as materials for further production.

Valuation even of Single Goods is Complex.

A second characteristic of valuations in industrial society rests on the fact that most goods are not simple utilities, but bundles of utilities. A suit of clothes, for example, is not merely a protection from cold and damp. The modern man pays for this utility in his clothes, but he pays much more for the comfort and elegance of the fit, the social distinction attaching to the fineness of the goods, etc. Since

valuation consists in ascribing importance to goods in proportion to their marginal utilities, it involves as many separate steps as there are separate utilities in the goods to be valued. Social valuation differs from that of a Crusoe in that these separate steps are taken by different classes in the community. In the case of clothes, the well-to-do class which patronizes fashionable tailors takes the warmth and comfort of its garments for granted. These utilities are required also by the less prosperous classes in the ready-made clothes which they buy and are valued by them, or even, as regards warmth, by the still poorer classes who buy second-hand clothes. The patrons of fashionable tailors give their thought to deciding as to the marginal utility to them of the style of cut and distinction of finish. Perhaps the best illustration of this point is presented in the valuation of watches of different grades. Nearly every one wants one fairly accurate pocket timepiece and few have use for more than one. The money equivalent of the marginal utility of this primary quality in a watch is very great to the well-to-do classes, and if the value of this quality were fixed by them it would be represented by many dollars. But the conditions of production are now such that fairly good timekeepers are brought within the reach of all. The marginal utility which determines the value of this quality is therefore that to people in very moderate circumstances. The watches of the well-to-do have in addition to this primary requisite, durability, beauty, power to give social distinction to their owners, extreme accuracy as timekeepers, etc. It is these qualities that the well-to-do value according to their marginal utilities to themselves rather than the primary quality common to all honest watches. The value of a watch is the sum of the values assigned to each one of its qualities by the classes to which these qualities stand as marginal utilities. As a timepiece it is valued by the people who can just afford to have a timepiece, as a durable timepiece it is valued by a higher class in the economic scale, as a durable timepiece encased in silver it is valued by those just able to have silver watches, as a gold-cased watch it is valued by people in still better circumstances, etc. In each instance the value ascribed to the quality added just before is carried over to make a part

of the value of the watch to which still another quality has been added. The value assigned to this last quality is added to the values previously determined to make the value of the whole watch. Thus the value of any good which is made up of a bundle of qualities is the result of a collective rather than of an individual calculation of marginal utilities.

Valuation a Collective Process.

The three illustrations that have been given are typical of the valuations that are made in industrial society. As members of society all of us take for granted the values of many of the goods we consume. We concern ourselves seriously only about the utilities which in our scale of consumption happen to be marginal. Thus the value of each good depends upon its marginal utility to the group of consumers to whom it is an object of economy. If it is composite, its value is the sum of the marginal utilities of its different qualities to the groups to which these qualities are objects of economy. Values in use are still measured by marginal utilities but the measurement is effected not by any single individual but by combining the calculations of many individuals.

Marginal Cost and Value in Industrial Society.

§ 56. In the economic calculations of a Crusoe, as we have seen, marginal disutility may serve, as well as marginal utility, as a gage of the value of the goods that are produced and consumed by the same person. The calculation of disutility, or cost of production, in industrial society, where goods are produced normally for the market, that is, consumed by quite different persons than those who produce them, is so complex that its influence on values is not easily established. In this treatise we can do no more than indicate some of the intricacies of the problem and the direction in which the connection between disutilties and values, so far as it exists, is to be sought.

Disutility, or cost of production, includes all of the painful and disagreeable sensations that men experience in connection with production. Each such sensation stands for a sacrifice and unless the results of production fully compensate all those who have made sacrifices, it has entailed loss in well-being. So long as attention is confined to the production of a Crusoe the painfulness of prolonged effort may stand by itself for these sacrifices, but for industrial society with its subdivision of functions a more precise analysis is necessary. In addition

to the painfulness of effort is another sacrifice which we may describe as postponing consumption or waiting. This is involved more or less in all branches of production. The workman who labors only eight hours a day may not prolong his effort to a point where it is painful, but he is sure before the day is over to feel that he is making a sacrifice in continuing at his bench when he might be out in the street or at home with his family. Postponing consumption even until the whistle blows is one of his costs of production. But under present conditions the postponement required is much longer than this. Modern production is indirect or roundabout. Materials, tools, machines, etc., are produced as aids to the production of consumable goods, and on the average a long period of waiting must intervene between the first steps in production and its issue in goods which are ready for consumption. The postponement of consumption which this entails is one of the essential conditions to efficient methods of production. It is also a condition the necessity of which is frequently overlooked by wage-earners. They experience the painfulness of effort and they must perforce abstain from consumption during their working hours, but the conditions of their employment, as a rule, insure them their wages by the week or the month irrespective of the stage of completion of the goods which they help to produce; and the conditions of their lives, as a rule, cause them to spend these wages for consumable goods as soon, or nearly as soon, as they earn them. Postponing consumption so that production may be carried on in a roundabout way is the economic service rendered by those who save and invest their incomes instead of spending them, and thus become capitalists. In saying that postponing consumption entails a sacrifice, economists mean merely that to the average man spending is more congenial than saving. Often the reverse is the case. Misers derive a positive pleasure from saving and gloating over their possessions. Rich people save much more easily than poor people. Nevertheless, *to the average man* saving is disagreeable and involves a sacrifice. If this were not the case the premium which savings banks are constantly offering to those who will patronize them would cause all incomes to be saved, until the community was so super-

abundantly supplied with capital that interest would no longer be paid for its use.

Complications in Calculation of Social Cost.

Another complication involved in calculating costs grows out of the fact that production, as carried on in industrial society, is a coöperative process. Many men unite their efforts to produce even the simplest good. It follows that the cost of production of each good is a sum of sacrifices to which many different individuals have contributed. Workmen of different grades and different capitalists, each contributing only a part of the capital used, have a share in it. Moreover, since cost is at bottom a question of individual feeling, its amount depends quite as much on the character and circumstances of the producer as upon the productive act which he performs. As a rule those doing the same sort of work are sufficiently alike to make general statements in regard to the cost of that work admissible, but there are many productive services which are rendered by individuals belonging to quite different classes and whose costs are accordingly quite different. The most common causes of differences in costs are differences in wealth. Every increase in income brings with it the possibility of increased enjoyment from consumption. The man who has only what he earns from day to day and who earns only enough to supply him with the requisites to decent living has little to tempt him from his work. If his daily round of tasks is painless it involves a minimum of sacrifice, as he has little to turn to outside of the factory. Give the same man an income from investments equal to what he earns by his work and the sacrifice involved in that work is increased. Increase his income from investments until he has enough to live on luxuriously without working at all, and he is more likely than not to find the labor, which before was not felt to be a burden, so irksome and unpleasant that he will give it up entirely. The character of the work has not changed, but the circumstances of the man have, and as a result there is a multiplication of cost. In the higher grades of employment where men with independent means work at the same tasks with men who have no other sources of income, differences in costs are so common as to make general statements about costs hazardous. The most important instance of such differences is in connection

with the service of postponing consumption, or waiting, rendered by owners of capital. Included among such owners are all sorts and conditions of men from millionaires to dollar-a-day laborers. Society values the services they render by reference not to the sacrifices that are involved for them individually in the accumulation of capital, but to the amount of capital they accumulate. The wage-earner's meager savings assist production no more and are no more important dollar for dollar than the inherited millions of the idle rich. Where the same productive services involve different degrees of sacrifice for different producers, it is the sacrifice to marginal producers, or those whose sacrifice is greatest, that must be counted in the cost of production. This must be compensated by the utility of the product or it will not be incurred any more than will an uncompensated last hour's labor be performed by an isolated producer. The calculation of the cost of production in industrial society is thus a very complex process, and any balancing of marginal cost or disutility against marginal utility must be roundabout and difficult of analysis. We shall return to it in Chapter XVIII.

Valuation of Complementary Goods.

§ 57. A special case of valuation of the greatest importance is that of complementary goods. Many wants are gratified not by one good but by a complementary group of goods, the presence of every element in which is necessary to the result. In such a case the whole group is valued as a unit in accordance with the principles just explained, and the valuation of each good in the group is the result of a separate calculation.

An illustration is furnished by a gun and cartridges. Without the cartridges the gun is valueless, without the gun the cartridges are of no use. In this case if the user has occasion to put a value on either he must ascribe to it all of the importance that belongs to both. In industrial society complementary goods have, as a rule, independent uses to which they may be applied. In the case of a gun and cartridges, the cartridges, at least, or their component parts, may be turned to other purposes. This opportunity for independent use furnishes grounds for independent valuation and makes it possible to calculate by a process of subtraction the value of the good which is useful only in the complementary group. The value

of the whole group is measured by its marginal utility. The values of the elements in the group which serve other purposes are determined by their marginal utilities in these independent uses. The difference between the value of the whole group and the sum of these independent values is properly ascribed to the element or elements which are of use only in the group. If the group is made up of several elements, the process of valuation may be exceedingly complex in practice, but the considerations involved are readily understood.

The Factors in Production Are Complementary Goods.

The most familiar complementary groups that men have occasion to value are those made up of producers' goods. As production is now carried on every step in the productive process involves the coöperation of several complementary factors. The value of each group of factors is derived from that of the consumable goods which it is helping to produce. Consumable goods gratify wants directly and may be valued by reference to the intensities of these wants. Groups of producers' goods do not gratify wants directly and owe the importance or value ascribed to them to the part they play in the production of consumable goods. Although a derived value, the valuation of complementary groups of producers' goods obeys the same principles that apply to groups of consumable goods. The value of the whole group is calculated by reference to the value of the consumable goods to result from it. The values of different elements in the group are determined as far as possible by reference to the independent uses to which they may be put. The value of the whole less the values assigned independently to the elements for which there are other uses is the value to be ascribed to the element or elements that have no independent uses. In practice these calculations are often very complex and could hardly be made at all but for the intermediation of money, the common medium in which they are all expressed by the business community.

The Margin of Consumption.

§ 58. As already explained, the calculations in reference to marginal utilities upon which values in use depend are comparative rather than absolute. They approach precision only when there are a number of different goods to be valued and the consumer is given a choice between additional units

of one or the other of them. In such cases marginal utilities must be carefully balanced against one another if an unwise selection is to be avoided. The typical consumer of industrial society is an individual with numerous and varied wants having access to markets in which numerous and varied goods capable of gratifying these wants are offered for sale, but limited in his means so that many of his wants must go ungratified. Successive units of each particular good offered for sale obey the law of diminishing utility. In order to get the largest return from the expenditure of his limited means the consumer must consider the law of variety. He must not buy an additional unit of one good when a unit of some other good which may be had at the same, or a lower, price has greater utility. In general he should carry his purchases of units of different goods which he desires down to the point at which the returns in utility for his last units of expenditure are approximately the same all along the line. Only under these conditions is he getting the largest possible return in utility for his expenditures. Economists sometimes speak of the marginal utilities of all of the goods which a person consumes as determining the location of his *margin of consumption*. This margin should be as even as possible to insure the maximum return in gratification to the consumer with limited means.

Importance of Price Phenomena.

§ 59. As the practice of bartering goods for one another has given way to the more convenient plan of selling goods for money, prices, exchange values in terms of money, have come to be the central phenomena of industrial society. Business men do not now compare commodities by saying that so much of one exchanges for so much of the other, but by noting their prices. They do not say, for example, that a bushel of wheat is the equivalent of two bushels of corn, but that the price of wheat is one dollar a bushel and of corn fifty cents. In conformity with this practice the discussion of the circumstances which determine exchange values in the next chapter is couched in terms of prices.

Exchange Values Are Ratios.

The first principle in reference to exchange values that must be emphasized is that as ratios they can neither rise nor fall as a whole. Values in use, measured as they are by marginal

utilities, may increase, but values in exchange cannot. A change in the exchange value of a particular good always and necessarily involves complementary changes in the exchange values of other goods. For example, if the exchange value of a bushel of wheat increases from one bushel of corn to two bushels of corn, the exchange value of corn has diminished from one bushel of wheat to half a bushel of wheat. Exchange values as a whole cannot be said to have changed at all.

The Value of Money May Change.

It is equally important to note that the exchange value of any single good *may* increase or decrease, and that this is as true of money, the commodity in which prices are expressed, as of other goods. When the exchange value of money increases prices fall; when it decreases prices rise. Thus when a dollar will buy two bushels of wheat instead of one its value in wheat has doubled, but the price of wheat has been cut in two. As prices are the barometer which guides business men in all their transactions it is of the greatest importance that that commodity should be selected to serve as money which is least likely to fluctuate in its exchange value.

The Value of Money.

§ 60. The value in use of a unit of money, or of a dollar, like the value of anything else, is man's estimate of its marginal utility. This is identical with the marginal utilities of the goods which his marginal dollar will buy. Each man has a certain money income to expend and a certain scale of wants to gratify. His effort is to get the largest possible return for his outlay. To accomplish this he must consider the prices of things quite as much as their utilities. His first dollar should go for that combination of goods having the greatest utility, his second for a somewhat less needed combination, and so on, each dollar adding somewhat less to his store of utilities than its predecessor. The marginal utilities of the goods purchased with his last available dollar measure the value of a dollar. It is these goods that the additional dollar adds to his store; take the dollar away and it is these goods that he must forego. They measure the importance, or value, of a single dollar in his scale of living.

Few people, even among those who regularly spend their entire incomes for the gratification of their wants, estimate

the value of a dollar as rigidly as the above analysis implies, and yet every one as a result of his business experience has a pretty accurate notion of the value of the monetary unit. If parents sometimes complain that their children are without such a conception, it is a proof merely that conditions have changed since they were young and that the value of a dollar to their children is actually less than to themselves. In the minds of intelligent men the value of a dollar includes not merely the utilities of consumable goods, but leisure for enjoyment, social esteem and influence, the perpetuation of the family name and family traditions—everything, in short, which command over dollars may secure and which seems to them desirable. It is probably true also that some people worship dollars in a quite irrational way for their own sake, though misers who have no ulterior motive beyond hoarding up money are more common in fiction than in real life.

Adam Smith's Error in Discussing Value.

§ 61. Until about forty years ago, treatises on political economy regularly entered upon the discussion of values in exchange without having given any special consideration to the values in use, upon which they depend. As Adam Smith was largely responsible for this practice, it is worth while to recall how he came to fall into such a serious error. In his *Wealth of Nations* * he defines values in use and values in exchange very much as we have done. Then, after asserting that value in use is an essential condition to value in exchange, he goes on to prove that they have no further relation to each other by comparing the value of water with the value of *a* diamond. His exact words are: "The things which have the greatest value in use have frequently little or no value in exchange; and, on the contrary, those which have the greatest value in exchange have frequently little or no value in use. Nothing is more useful than water, but it will purchase scarce anything; scarce anything can be had in exchange for it. A diamond, on the contrary, has scarce any value in use, but a very great quantity of other goods may frequently be had in exchange for it." The fallacy in this reasoning is obvious. The logical contrast is not between the value of water in general and of *a* diamond, but between the value of a partic-

* Book I., Chap. IV.

ular volume of water, such as a quart, and of a diamond. If Adam Smith had concentrated his attention on the value in use of a quart of water in the little Scotch village of Kirkcaldy, where he penned these sentences, he never would have asserted that the value of water was so great. On the other hand, in speaking so slightingly of the value of a diamond, he is passing from the economic to the moral point of view. Perhaps a diamond *ought* to be of slight utility to men, but with human desires and the supply of diamonds as they are, it is very certain that it is not.

As is shown in the next chapter values in exchange are vitally dependent upon values in use. The calculations of consumers, their balancing against one another of the marginal utilities of units of goods at their margins of consumption, choosing those units with the larger utilities and rejecting those with the smaller, determine the *demand* for the commodities that are bought and sold in the markets of the world and this demand is one of the two factors that determine values in exchange.

REFERENCES FOR COLLATERAL READING

**Seligman*, Principles of Economics, Chaps. XII. and XIII.; **Clark*, Essentials of Economic Theory, Chap. VI.; *Smart*, Introduction to the Theory of Value; **Böhm-Bawerk*, Positive Theory of Capital, Book III.; **Pierson*, Principles of Economics, Part I., Chap. I.

CHAPTER VII

VALUES IN EXCHANGE AND PRICES

The Determination of Prices.

§ 62. The circumstances which at last analysis determine the money prices of goods and services are exceedingly complex. To understand them completely one must comprehend every phenomenon of economic life. Nevertheless the actual process by which money prices are fixed is comparatively simple. Buyers and sellers come together each with definite notions as to what the prices should be, and the prices finally fixed are the result of their bargaining.

Buyers' Calculations.

On the side of buyers the following calculations are commonly made: (1) They decide in regard to the values in use of the different goods offered for sale, and if they think of getting more than a single unit of each good they consider the values of additional units. In this connection, as already explained, marginal utilities are decisive. (2) They decide as to the prices that they are willing to pay. As regards most of the goods purchased there is no hesitation. Experience has taught that at the prices at which they may ordinarily be purchased they afford the greatest return in gratification to be derived from the expenditure necessary to such purchase. Thus the *general level of prices* is a circumstance that always influences buyers, though they are so accustomed to thinking of the prices of staple articles as relatively fixed that they usually give little thought to it. The average family purchases flour, sugar and the other staples that enter into the consumption of every household as a matter of course. Deliberation begins only after these necessaries are secured, and the question is how to get the largest return for the sum that remains to be expended. Buyers vary greatly in the intelligence they show in disposing of their surplus incomes. Some expend them regularly for goods which they do not really need, but which attract by their novelty. Less impulsive

buyers have in mind several different goods which they would like to have. These are arranged in their minds in a rough scale which enables them to decide promptly which of two goods they would prefer at the same price, or whether at different prices the dearer good is worth, in their scale of consumption, the difference. In all of these calculations the value they ascribe to the monetary unit is quite as important in directing their purchases as the values they ascribe to the goods bought.

Sellers' Calculations.

The calculations of sellers are usually somewhat more precise than those of buyers. (1) They know pretty closely how much the goods they have to sell have cost them in money, or their *expenses of production.* Since they are in business for profit, sellers look upon the expense of producing a unit of a commodity as a minimum price, less than which they cannot afford to take except under unusual circumstances. Different sellers have, of course, different expenses of production, so their minimum prices may vary within a considerable range. (2) They have accurate information in regard to the current prices of goods and on the basis of this knowledge decide what prices they ought to obtain. At this point sellers are influenced by standards made for them by market and other social conditions, just as buyers are influenced to a certain extent by the standards of others in calculating the values in use of different goods.

Price Scales.

§ 63. It will simplify the explanation if the reader will imagine the prices which buyers are willing to pay and which sellers are willing to accept as grouped together in a *buyers' price scale,* on the one hand, and a *sellers' price scale,* on the other. Such scales must of course refer to definite quantities of the goods to be bought and sold and to a particular *market.*

Definition of a Market.

By a market we mean the place or conjunction of means of communication through which buyers and sellers are brought together for the exchange of economic goods. To give greater precision to our discussion we shall use, in place of the phrase, " buyers' price scale," the phrase, " demand scale," and in place of " sellers' price scale," " supply scale." As we shall employ these terms, *demand signifies the number of units of a good that buyers are ready to purchase at a given price; supply*

the number of units that sellers are willing to part with at a given price. Both expressions of course, refer to a particular period of time in a particular market. Thus the following would be typical demand and supply scales for wheat *:

Demand Scale

At	$.90	buyers	would	take	10,000,000	bushels
„	.91	„	„	„	9,500,000	„
„	.92	„	„	„	9,000,000	„
„	.93	„	„	„	8,500,000	„
„	.94	„	„	„	8,000,000	„
„	.95	„	„	„	7,500,000	„
„	.96	„	„	„	7,000,000	„
„	.97	„	„	„	6,000,000	„
„	.98	„	„	„	5,000,000	„
„	.99	„	„	„	4,500,000	„
„	1.00	„	„	„	4,000,000	„
„	1.01	„	„	„	3,500,000	„
„	1.02	„	„	„	3,000,000	„
„	1.03	„	„	„	2,000,000	„
„	1.04	„	„	„	1,000,000	„
„	1.05	„	„	„	500,000	„

Supply Scale

At	$.90	sellers	will	part	with	500,000 bushels
„	.91	„	„	„	„	1,000,000 „
„	.92	„	„	„	„	2,000,000 „
„	.93	„	„	„	„	3,000,000 „
„	.94	„	„	„	„	3,500,000 „
„	.95	„	„	„	„	4,000,000 „
„	.96	„	„	„	„	4,500,000 „
„	.97	„	„	„	„	5,000,000 „
„	.98	„	„	„	„	6,000,000 „
„	.99	„	„	„	„	7,000,000 „
„	1.00	„	„	„	„	7,500,000 „
„	1.01	„	„	„	„	8,000,000 „
„	1.02	„	„	„	„	8,500,000 „
„	1.03	„	„	„	„	9,000,000 „
„	1.04	„	„	„	„	9,500,000 „
„	1.05	„	„	„	„	10,000,000 „

Ideally, provided the requisite information were available, demand and supply scales could be drawn up for any com-

* In actual practice price changes for wheat on a modern produce exchange are recorded not in cents, but in fractions of a cent, and the number of bushels dealt in would often be much larger than indicated in these scales, which are, of course, only illustrative.

Data for Price Scales Lacking.

modity in any market; actually only omniscience could draw up scales accurately even for a commodity like wheat in a well-organized produce exchange. This is because such scales must be derived from the personal scales of hundreds and even thousands of potential buyers and sellers and these cannot easily be estimated because the success of buyers and sellers often depends upon their secretiveness with reference to their transactions, both actual and contemplated. Moreover these personal scales assume precision only at or near the current market price. If, for example, wheat is selling for a dollar, produce brokers and their active customers will have fairly definite ideas as to whether to buy or to sell at that price and in what quantity. They will also have fairly definite plans as to the quantities they will buy or sell if the price advances or recedes fractionally from a dollar. Few of them, however, will have taken the trouble to calculate how much wheat they would wish to buy or sell if the price advanced to $1.10 or receded to $.90. A demand or supply scale is thus definite only with reference to prices at or near "the market." For prices substantially above or below the market it is vague and uncertain. That the information necessary to the construction of accurate scales even at or near market prices is not in the possession of any single individual does not alter the fact that it is the interaction of these scales that fixes prices. It merely explains why no one, so long as a market continues competitive, can predict with certainty what price will be fixed on any given day. It is this element of uncertainty or speculation characteristic of every free market which makes produce and stock exchanges the favorite resort of gamblers as well as of legitimate traders.

Four Possible Situations for Determination of Prices: One Buyer and One Seller.

§ 64. There are four possible situations in which buyers and sellers may come together. The simplest is that in which one buyer bargains with one seller to secure a commodity which that seller alone offers for sale. The buyer has made up his mind what price he will pay rather than not get the commodity, but as an economic man he wishes to pay as much less as is consistent with his sense of fair dealing. On the seller's side is a definite idea of the lowest price he can afford to accept, but his business interest calls for the highest price

he can get. If the buyer's maximum price does not exceed the seller's minimum price it is obvious that no exchange can take place. If it does, then the market price must lie somewhere between these limits. Just where depends upon the relative skill of the two parties in bargaining. For example, the commodity to be sold may be a family portrait of no special artistic merit, which has come into the possession of a dealer. The dealer's supply price may be no more than $1.00, whereas, the demand price of a member of the family, to whom it is a precious relic, may be as much as $500. It would be a poor dealer who under these circumstances did not get at least $100 for the portrait; but skill in concealing the extent of his interest might enable the purchaser to secure it for much less than this.

Several Buyers and Only One Seller.

A second and more common situation is that in which several buyers bargain with one seller who has a monopoly of the good which all the buyers want. This situation admits of a variety of accompanying circumstances:

(1) The monopolist seller may have only one unit of the desired good, as is often the case with dealers in antiques. In such a case the buyer who is prepared to pay the highest price will get the coveted object at a price between that offered by the next highest bidder and his own maximum price—unless, indeed, this last is less than the dealer is willing to accept. How this works out in practice is frequently illustrated at auctions. The auctioneer puts the commodity, say a rare manuscript, up for sale. The different buyers present, representing perhaps dealers and collectors from many countries, begin to bid for it. As the price advances from $1000, to $1200, $1500, $2000, etc., bidder after bidder drops out. Finally, the field is left to the two buyers whose demand prices are highest. One has bid $5000, the maximum that he is willing to pay. The other bids $5100. The auctioneer says, "going, going, gone," and the last bidder secures the prize for $5100, although his maximum price may have been $6000 or even more. Sometimes at auctions a minimum price is fixed which must be realized or the sale will be declared off. This is specially common in connection with auction sales of real estate to satisfy a mortgage or some other claim. In such

cases unless some bidder will offer at least the minimum price, the supply price, no sale can take place.

(2) The monopolist seller may have several units of the desired good and these may be incapable of reproduction. In this case he may pursue the plan of getting as much as he can for each unit as it is sold, as is usual at auctions, or of marking each with the highest price which he thinks he can get for all of them, as is usual with " one-price " dealers in antiques. If he pursues the first course the result will be similar to that in the first case. Each successive unit will go to the competitor who was just outbid by the more eager buyer who got the one before. In this case the prices received for different units may vary widely and if all are sold at one time will show a tendency to decline. If the seller pursues the second course and uses good judgment in marking his wares he will fix on the price which is just equal to the maximum which the buyer whose purchase is necessary to the sale of the entire supply is willing to pay, unless, of course, this is below the price which he is himself willing to accept, when some of the supply must remain on his hands.

(3) The monopolist seller may have several units of the desired good and may be in a position to produce as many more units as he considers it profitable to put upon the market. This is the common case of monopoly and is so important that special chapters are devoted to it. At this point it will suffice to advance the fairly obvious propositions that anywhere below the limit fixed by the maximum price which the most eager buyer is willing to pay, the monopolist may fix the price by regulating the supply, and that, in so regulating the supply, he will try to fix the price that, in the long run, will afford him the largest aggregate monopoly profit over and above his expenses of production.

One Buyer and Several Sellers.

A third situation is presented when one buyer bargains with several competing sellers. Perhaps the most common case of this kind is when a single city family goes in the summer to live in a country district where all other families produce for themselves all of the milk, butter, eggs, chickens, etc., which they require. Under such circumstances, if competition is permitted to work out its full effects, the new

family may get the country products it requires for the lowest prices the most eager sellers competent to supply all its needs are willing to accept. More frequently competition is restrained by custom and the buyer has a choice between goods of different qualities rather than between different prices for the same goods. This third case of "buyer's monopoly" has resulted at times from the formation of the trusts discussed in Chapter XXV. When all of the manufacturers who use a particular kind of raw material combine, producers of the raw material are placed at a great disadvantage in bargaining. They may be forced to accept a price which is so low as to drive all but the most capable of them out of business.

Two-sided Competition.

§ 65. The last and most common situation is that in which there are several buyers and several sellers, among whom more or less active competition and bargaining are carried on. This is well illustrated in a modern produce market and in discussing it we may revert to the demand and supply scales for wheat, given in Section 63. The demand scale indicates the quantities that buyers are willing to take at different prices. The supply scale, the quantities which, at the same prices, sellers are ready to part with. Fear that they may fail to get the supplies they desire will lead buyers to bid against one another; anxiety to realize the highest possible prices will deter sellers from disposing of their supplies until they are convinced that the maximum price for the time being has been reached. At $.95, as the scales show, 4,000,000 bushels may be bought, but buyers stand ready to take 7,500,000 bushels. This price is evidently too low. At $.96, 4,500,000 bushels are available, but buyers are ready to pay for 7,000,000. The price is still too low. Competitive bidding will advance the price to $.97. At this figure 5,000,000 bushels can be bought, but buyers want 6,000,000 bushels. Sellers, by holding back, can get a still higher price. Will the price go to $.98? No, because at this figure buyers will take only 5,000,000 bushels, whereas 6,000,000 bushels are ready for sale. Free competition, guided by full knowledge and equal skill in bargaining on the side of both buyers and sellers, would fix the price somewhere between $.97 and $.98. At this price between 5,000,000 and 6,000,000 bushels would

change hands, and only those buyers who were unwilling to pay as much and those sellers who were unwilling to accept as little as this would go away disappointed. Of course, in practice, full knowledge and equal bargaining power are rarely if ever present in a competitive market, so all that we can say with confidence is that free competition in the purchase and sale of a commodity among a number of buyers and sellers *tends* to bring about the result that we have described, that is, a price at which the maximum number of sales can be effected.

Graphic Representation of Two-sided Competition.

§ 66. We may represent the interactions of demand and supply graphically by plotting curves corresponding to the demand and supply price scales. Taking the figures already assumed for our wheat market and representing the one-cent variations in price assumed by equal distances along the perpendicular line OY and the corresponding changes in the number of 100,000 bushel lots of wheat which buyers will take and which sellers will dispose of by equal distances along the base line OX we get the following demand and supply curves:

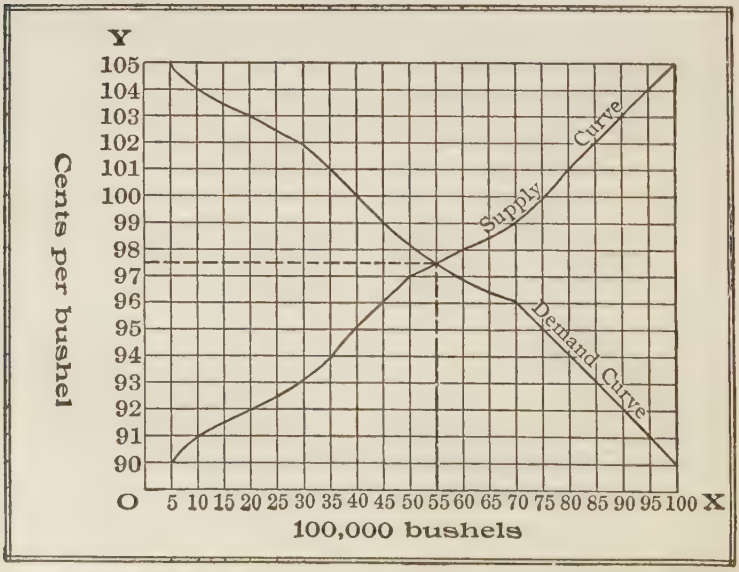

Fig. 6.

If correctly drawn the distance from the point of intersection of these curves to the base line OX will represent the price which free competition tends to establish; the distance from this point to the perpendicular line OY, the quantity of the commodity that will change hands at that price. Under the conditions assumed in this case the competitive price of wheat would be $\$.97\frac{1}{2}$ and the number of bushels that would change hands at that price would be 5,500,000.

The Stock-Exchange.

§ 67. In some markets prices are determined in exactly the way that has been described. On some stock-exchanges, for example, brokers are required to communicate their bids and offers in writing to an officer of the exchange. At the close of the market these bids and offers for each stock are examined and the price fixed which will effect the largest number of transactions. This one price, irrespective of the fact that their own bids or offers may have been much higher or much lower, is paid by all brokers who bid that amount or more and is received by all sellers who offered stock at that or a lower figure. In most markets other methods for fixing prices are used, but, nevertheless, the illustration given indicates with a fair degree of accuracy the forces at work and the goal toward which they are directed in any competitive market.

Complications.

The fact that in such markets buyers and sellers do not ordinarily come together face to face to bargain over terms alters the machinery of exchange, but does not alter its essential nature. In most branches of trade to-day, particularly retail trade, sellers pursue the plan of marking on the goods they offer for sale the prices which they propose to ask, leaving it to buyers to accept them or reject them as they see fit. Buyers, on the other hand, instead of bidding against one another to advance prices, exert what pressure they can to induce sellers to lower them by going from store to store seeking the lowest prices. The result is, or tends to be, the establishment of that price which will effect the largest number of sales in any given period. Sellers wish to make the largest possible number of sales at the highest attainable prices. Their inclination as individuals is to put up prices. As competitors they tend to lower them to enlarge the volume of their

sales. When competition is active among a number of sellers with varying expenses of production, the price tends to be fixed at a point which affords profits to several, just pays the expenses of production of others, and drives others out of business because it does not cover their expenses of production. The part which buyers play in bringing about this result is by seeking constantly for the cheapest market. Their competition is rarely actually excited, but its potential force is indicated to sellers by the rapidity with which their goods are sold at the prices which they fix. The more attentive buyers are to their interest in getting goods at the lowest prices, the more likely are sellers to meet price-reductions promptly, so that there will be substantially one price for each particular good at any one time throughout the whole market. The price will be lower than many buyers stood willing to pay, it will just about suit the ideas of others, while still others will find it too high.

Advantages of One-price System.

In stating that two-sided competition will tend to establish one uniform price instead of a variety of prices for identical units of the goods sold, we are simply describing a fact of common observation in highly organized markets. Experience has taught both buyers and sellers the advantage of agreeing upon the one price at which a maximum number of sales may be effected, and all the machinery of competition, published price lists, clearly marked prices on goods offered for sale, etc., is designed to bring this about. Only in communities in a backward condition industrially, as in parts of Italy, for example, do any large number of sellers at retail continue to make the determination of the price at which each good shall be sold a matter for a special bargain. The time that is wasted in useless higgling when this plan is followed is convincing proof of the superiority of the one-price system. In the wholesale trade special bargains between the wholesale dealer and his customers are more common and skill in bargaining is an important requisite to success. The price limits within which such bargaining is confined are, however, narrow, as the wholesaler is always restrained in individual transactions from making too great concessions by the fear that he may alienate his other customers.

The Marginal Buyer.

§ 68. In some of the illustrations used in the preceding discussion the buyers were at the same time the consumers of the goods they bought. When this is the case the demand price scales that come into play represent the money equivalents of the marginal utilities of the goods to be purchased to the different buyers. The price finally established is the money equivalent of the marginal utility of the good to the buyer who is just willing to pay that price, whom we may conveniently designate as the *marginal buyer*. Who the marginal buyer shall be depends, of course, on the supply price scale for the particular good as well as on the demand price scale.

Most goods that are bought and sold are not consumers' goods, but producers' goods, and in consequence the demand price scales for them are not based directly on calculations of marginal utility. As explained in Section 57, however, the values of producers' goods, which are nearly always elements in a complementary group, are derived from the values of the consumers' goods which they help to produce. Wheat is valuable because from it bread and numerous other articles of food are made. The demand price scales which are factors in determining the price of wheat are for the most part the demand price scales of dealers whose calculations are based on estimates of the prices that millers and others will pay. The demand price scales of millers in turn are based on calculations as to the prices bakers and housewives will pay for flour, and as a result of the calculations of housewives, who either buy flour to bake bread or buy bread itself from bakers, we have demand price scales based directly on estimates of marginal utility. Thus at last analysis the demand price scales even for producers' goods are based on calculations of marginal utility expressed in monetary terms. For convenience we may substitute for the phrase marginal utility, *marginal use,* when we are thinking of producers' goods. Demand price scales in the case of producers' goods express the money equivalents of the *uses* which buyers propose to make of the goods they purchase. The price finally established in the case of producers' goods is, then, the money equivalent of the marginal use of the good to the buyer who is just willing to pay

that price. As before, the determination as to which of the many potential buyers shall appear as the marginal buyer depends on the supply price scales, as well as on the demand price scales.

The Marginal Seller.

On the supply side we must distinguish sharply between goods which are controlled by a monopoly and goods that are produced under competitive conditions. Only in connection with competitively produced goods do we have different supply prices coming into comparison and a resulting supply price scale. As already explained, the supply prices of producers are determined by their expenses of production. The price finally fixed by competition corresponds to the expenses of production of the *marginal seller,* that is, the seller whose supply is needed along with the supplies of sellers who produce more cheaply, to satisfy the demand of the market. The circumstances which determine *market prices,* that is, the prices at which goods are actually sold from day to day, are so variable and irregular in their operation that no definite rule can be laid down as to the reasons which cause this or that seller to be the marginal seller. But, behind most market prices are *normal prices,* which are much less subject to changes. This is because the conditions of production are more stable than the market conditions under which goods are bought and sold, and serve constantly to recall prices from the more or less violent fluctuations of the market. For the present, normal prices may be defined simply as the prices about which market prices tend to fluctuate. In the case of freely reproducible goods normal prices correspond to the normal expenses of production of representative firms. The normal prices of goods produced under conditions of monopoly are, on the other hand, the money prices which are calculated, in the long run, to afford the largest profit to the producer or combination of producers which enjoys the monopoly. In both cases the term, "normal," designates the price which economic forces tend to establish under the given conditions. The justification and practical usefulness of the conception will be made to appear in subsequent chapters.

Market *v.* Normal Prices.

Before attempting to define more precisely normal prices or to analyze the elements that enter into the expenses of

production of marginal sellers, we shall find it advantageous to study the subject of production itself. For it is only after the whole circle of consumption, production and distribution has been traversed that all of the elements that enter into the determination of exchange values and prices can be understood.

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CHAPTER VIII

PRODUCTION: LAND AND NATURAL FORCES

Nature of Production.

§ 69. Production has already been defined as the creation of utilities. That man cannot create matter is a familiar truth. All that he can do is to rearrange particles of matter so as to create *form* utilities; or move goods from one part of the world to another so as to create *place* utilities; or preserve goods from one period to another so as to create *time* utilities; or, finally, transfer goods from the ownership of one individual to that of another so as to create *possession* utilities. Any activity which contributes to the creation of utilities in any of these ways is production.

Manufacturing and Trading as Truly Productive as Agriculture.

A school of French economists of the eighteenth century, the Physiocrats, gave currency to the belief that agriculture is productive in a special and peculiar sense. They even went so far as to characterize manufacturing and mercantile pursuits as *sterile,* or unproductive. Adam Smith, writing in 1776, took vigorous exception to this view, but he, too, speaks of nature as " laboring along with man " in farming, implying that it does not " labor along with " him also in his other occupations. Completer knowledge of the real nature of production has emancipated most minds from these misconceptions. They reappear from time to time, however, in criticisms of the activity of merchants, who are said to create nothing, but to live, like parasites, by buying things for less and selling them for more than they are worth. The obvious reply to such attacks is that merchants create time, place and possession utilities and that human well-being depends as much upon these as upon the form utilities created by farmers and manufacturers. Convincing proof of the value of the services of merchants is furnished to city people when they go to live in the country in the summer and have to depend for the goods they require upon a distant and ill-stocked country

store. The growing prevalence among country people of the practice of coming to town to do their shopping indicates, on the other hand, their appreciation of what the merchant does for the community. If there is just ground for complaint, it is not because merchants fail to render useful service, but because the organization of wholesale and retail trade is less economical than it might be. In this department of business the disadvantages of unregulated competition are more clearly in evidence than, perhaps, in any other.

Factors in Production: Nature and Man.

§ 70. As already implied, there are two essential factors in all productive processes: nature and man. Nature figures in production as an aggregate of materials and blind forces. Acting in conformity with invariable laws, she destroys as readily as she creates. Moreover, her productive services are always gratuitous to him who has the means and the intelligence to command them. Man, on the contrary, appears as a being with conscious purpose. He also destroys—not ruthlessly, however, as nature seems to do, but in order to gratify his wants. In production man is the directing, active agent, nature the obedient, passive agency. Man marshals the materials and productive forces which nature supplies in the ways that experience has taught him to be best, and he alone enjoys the fruits of productive enterprise.

Capital a Secondary Factor.

Man and nature are the primary factors in production; secondary or derived from them is *capital, the products of past industry used as aids to further production.* With the abundant evidence on every side of the dominant rôle which power machinery and other forms of capital play in production as now carried on there is little need to enlarge upon the significance of this third factor. To capital is chiefly due the efficiency of contemporary productive methods, as contrasted with those of one hundred and fifty years ago, and also the division of the working population into employers and employees. These truths are so familiar to every one that it is not so much the importance of capital as the fact that it is not an independent but a derivative factor in production that requires emphasis.

Definition of "Land."

§ 71. As the term is commonly used in economics, "land" designates the surface of the earth and the materials above

and beneath it. It thus includes bodies of water and what they contain. The principal ways in which land, in this sense, assists in production may be enumerated as follows: (1) it affords *support* for man and the buildings, etc., he erects upon it; (2) its *extension* permits the movement of men and goods from place to place; (3) its *geographical features,* mountains, valleys, rivers, bays, etc., aid in many ways; (4) it supplies the *materials,* mineral, vegetable and animal, from which all commodities are made; (5) each portion of it enjoys its share of summer's heat and winter's cold, air, sunshine and rain, without which no form of life could long continue on the earth. Properly speaking some of these endowments of land, such as heat and sunlight, are forces rather than materials. The principal other natural forces which aid in production, as at present carried on, are the force of gravity, the vital forces that cause the growth of plants and animals, the expansive force of steam, electrical force and the explosive power of gases.

Progress in Production. Land and natural forces have been available for human use for two hundred thousand years or more, but only in recent times has man begun to appreciate and utilize them at all fully. His early discoveries of fire and its uses, of methods of navigating by water, and of the metals, and his first domestication of animals and cultivation of plants, followed one another at long intervals and were the results, there is reason to suppose, of happy accident rather than of deliberate study and experiment. Only in the last two centuries has systematic progress been made in the task of understanding nature and directing her forces toward human ends. The results already achieved in analyzing materials into their elements and gaging accurately their importance for different uses, in generating and controlling steam and electricity and in finding new employments for these and other natural forces, seem to justify extremely optimistic anticipations in regard to the future of the race upon the earth. They have served in large measure to shift the attention of economists from the problems of production, which seem in process of such happy solution, to the problems of distribution, which become more rather than less complex as general wealth increases. There

is the more excuse for this shifting of interest because different phases of production are beginning to be dealt with in special treatises. " Economic geography " is a description of the part which land and natural forces play in production. " Economic geology " treats more especially of rocks and minerals in relation to human well-being. Similarly, treatises on agriculture, on mining and on different kinds of manufacturing, describe the technique of modern production in its different branches. It remains for a treatise on economics merely to call attention to the more general aspects of the part that nature plays in production.

Different Characteristics of Different Pieces of Land.

§ 72. It is a familiar fact that different areas of land are unequally fitted to aid production in the ways that have been described. Most obvious are differences in geographical features. There is but one New York Harbor on the American continent, and its superiority in all essential respects to other harbors causes every square foot adjacent to it to be eagerly utilized in the promotion of a vast commerce. Similarly, there is but one source of water power like that supplied by the Niagara River and there are no other fresh water courses comparable with the Great Lakes and the Mississippi and its tributaries. Though less unique other geographical features are important and influence in large measure the forms of industrial activity that flourish in the regions in which they are found. Differences in mineral resources are quite as marked. Geological changes, most of which antedated the appearance of man upon the earth, deposited beds of iron ore in one locality, strata of coal in another, veins of gold and silver, copper and lead in still others and in others layers of barren rock. The influence which these mineral deposits exert on the kinds of industry that are to be carried on in different sections and on their prosperity is too familiar to be dwelt upon. Differences in soil, climate, rainfall and the other conditions affecting agriculture are equally in evidence and play their part in shaping a nation's industries.

Although most of the characteristics of different pieces of land are, economically speaking, unalterable, others admit of considerable modification. However admirable a harbor may be as fashioned by nature it can nearly always be improved

by man. Important as were the Great Lakes as a natural water course their usefulness has been much increased by the construction of the Erie, Welland and Sault Ste. Marie canals. Even more marked are the changes which man may make in preparing the soil for agricultural use. Besides clearing land from forests and from stones and draining off surplus water, he can often change comparatively poor to very good soil by means of fertilizers. As the English economist, Alfred Marshall, has suggested, the various qualities that fit a piece of land for the cultivation of a particular crop or series of crops may be compared to the links of a chain, and as the strength of a chain depends upon that of its weakest link, so the fertility of a piece of land depends upon the quality in respect to which it is most deficient. In the same way that the strength of a chain may sometimes be increased many fold by repairing an imperfect link, so land may often be raised to a much higher plane in the scale of fertility, if its one serious defect is remedied.

Old and New Countries Contrasted.

In new countries where land is abundant and labor and capital are scarce and dear, the tendency is to rely mainly on the natural qualities of different soils and to make little use of fertilizers. As a country becomes more populous and land is in greater demand, fertilizers are more freely used and the tendency is for each piece of land to be supplied artificially with the qualities in which nature has left it deficient. In this way continuous cultivation tends to obliterate the differences which originally distinguished different soils in the same general region and to raise them toward one uniform standard of excellence. This makes it difficult, if not impossible, in an old country to determine to what extent the fertile properties of a given piece of land are due to nature and to what extent to man. In the United States it is probably still true of agricultural land that it owes the principal characteristics that fit it for production to nature. This is even more the case, of course, with its mineral and forest lands.

§ 73. If attention be confined to some particular product, such as iron, coal, wheat, corn or wool, and a study be made of the conditions under which it is produced in a country like the United States, it will be found that some of the supply

comes from areas where the natural conditions are very favorable to such production, that other portions come from areas where the natural conditions are less favorable, and still others from areas so situated that the production is barely profitable. To illustrate by reference to iron: some of the ore is of such richness and is so easily mined that each year's output affords a profit to mine owners and operators so large that in a short time it amounts to a princely fortune. Other ore is less rich and mined under greater difficulties, but still pays a handsome profit over all the expenses of its production. Still other ore barely repays the expense entailed in putting it on the market. It may be, and often is, the case in mining that still other ore is taken out of the ground and sold at an actual loss to those engaged in the business, the loss being made good for a time out of the capital of such business men in the hope that the ore will improve with depth, or that it will command a higher price, or that something will occur to make the enterprise a success. In addition to this poorest ore mined there are known to be vast bodies of ore of even inferior grades which might be mined and would be mined if market conditions were to change so as to make it profitable. In iron mining and other branches of mining there are thus different producers incurring quite different expenses of production, ranging from those whose expenses are low to those whose expenses are barely covered or even not quite covered by the price. The more fortunate receive in the current price a considerable margin over their expenses of production, which is to be explained, economically, as due to the superior natural resources which they exploit.

Differences in Land Cause Differences in Expenses of Production: Mining.

A similar situation is found in farming and may be illustrated by reference to the cultivation of wheat. The expense entailed in producing wheat on the bonanza wheat farms of the Dakotas, even including the transportation charge to the distant market, is very considerably less than the expense of producing wheat for the same market in Michigan, owing to differences in the favorableness of soil and climate in the two sections. Some wheat farmers realize regularly year after year a considerable margin above the expenses of production in the current price, others realize a smaller margin, others

Wheat Culture.

barely pay expenses, while, in some years, still others incur a loss and have cause to regret that they did not devote their land to some other use. In addition to the land used for wheat there is still other land that is even poorer for this purpose, but that could and would be used to swell the country's wheat crop in case market conditions changed so as to make this profitable. In wheat farming and other branches of farming there are thus considerable differences in the expenses of production incurred by different farmers, and since all obtain approximately the same prices for the same products in the central market, allowing of course for variations in quality, these differences cause some to reap large profits, some to reap smaller profits, some to just meet their expenses and some, perhaps, actually to lose on the year's industry. Here again superior natural advantages are the source of the higher profits which some realize.

Manufacturing.

An exactly similar situation is encountered in branches of manufacturing which utilize water power, the supply of which is limited. Those who control superior sources of water power obtain their power more cheaply than their competitors using inferior power. So long as all manufacturers sell their products for the same market prices, those controlling the superior powers must reap an extra profit traceable to this natural superiority.

Source of Rent.

From these typical illustrations it appears that land and natural forces assist different producers for the same market unequally. Since they all receive approximately the same prices and since these must be high enough to cover the expenses of production of the men who produce at the greatest disadvantage, but whose supplies are necessary to satisfy the demand of the market, those producing under more favorable conditions must reap a profit due to these conditions. This special form of profit, which in the aggregate represents an important share of the wealth annually produced, is known in economics as *rent* and will receive further consideration in the chapter on that topic.

§ 74. But, it may be asked, if nature assists production so unequally in different localities, why is not the whole supply of each particular commodity produced in that one

spot which is best adapted for the purpose? The answer to this question suggests an important economic principle. All of the iron ore needed in the United States is not produced from the richest iron mine, because that mine does not contain enough ore to satisfy a hundredth part of the demand. All of the wheat required is not produced from that one acre best suited to wheat culture, because it could not produce a millionth part of the wheat needed. Equally inadequate is the water power even of Niagara to generate the force needed to keep all of the manufacturing machinery in the country in motion.

Law of Diminishing Returns.

In practice, as is well known, it does not pay to extract all the ore from even the richest mine at too rapid a rate, nor to cultivate too carefully even the best acre of land, nor to utilize too fully even the finest water power. In each of these cases the producers encounter what is known in economics as the *law of diminishing returns.* Briefly stated this law is that *after a certain point has been passed in the cultivation of an acre of land or the exploitation of a mine, increased applications of labor and capital yield less than proportionate returns in product,* it being understood, of course, that no important change is made in the method of cultivation or exploitation. To illustrate by reference to raising corn: a given acre of land may be cultivated in numberless different ways, each more elaborate than the preceding and each giving rise in a normal year to a somewhat larger crop. It may be plowed once, twice, three or even four times, and each plowing will add somewhat to its preparedness to receive the seed. It may be harrowed correspondingly. The use of fertilizers familiar in the region offers a wide range of possible variation, each having some perceptible effect on the year's crop. While the crop is maturing it may be cultivated over and over again and a great number of different precautions may be taken to protect it from the ravages of birds, insects, storms, etc. It may be irrigated, or great pains may be taken to drain off quickly an excess of rainfall. In these and hundreds of other ways labor and capital may be applied without exhausting the productive capabilities of the land. Some of these possible improvements in the method of cultivation beyond the rough-

est scratching over of the soil may, and usually will, yield more than proportionate returns in the corn crop, but after a certain point has been passed all experience confirms the law that further improvements afford less than proportionate returns. Unless this were true, indeed, there would be little occasion for dividing up rural families and sending some of the sons to take up new land. Every additional hand on the old farm would add his proportion to the joint produce and a farm of a hundred acres would support a score of families as well as one.

Applies to Extensive or Intensive Margins of Cultivation.

To give precision to the statement of the law of diminishing returns it is customary to distinguish between the "extensive" and the "intensive" margins of cultivation. If, for example, the demand for corn increases so as to induce the production of a larger crop, the additional supply may come from either or both of two sources. Corn growers in the settled portions of the country may make their farming more *intensive,* that is, apply more labor and capital to the cultivation of each acre and in this way add to their crops. Others may be induced to take up new land and prepare it hastily for *extensive* farming. If both results follow the prospect of a somewhat higher price for corn, as they would if farmers were always alert to their own interests and able to adapt their methods promptly to changing market conditions, there will be two situations in which the expenses of producing corn are just covered by the price. The corn grown on the poorest land hastily plowed and planted, or on the *extensive margin of cultivation,* will barely repay the expenses of production. So also will the additional corn raised by the application of additional labor and capital at the *intensive margin of cultivation.* The producer at either margin may in such a case be properly described as the *marginal producer* whose expenses of production are just covered by the price of the product. The fact that his *additional* corn just about pays for itself will not, of course, prevent the farmer at the intensive margin from realizing a rent from that corn which he continues to produce at smaller proportionate expense.

Law Static.

It should be carefully noted that the law of diminishing returns is presented as applying not to progressive agricul-

tural industry as a whole, but merely to a particular area of land cultivated in accordance with the knowledge available at a particular time. It is a static law, helpful in accounting for the phenomena of any given period, such as the migrations of population to new lands, the slow rate at which the wealth known to be contained in a particular mine is taken out, or the failure to get every possible horsepower out of a waterfall, but not a law of progress. Some economists, it is true, have believed an analogous law of diminishing returns to hold good over long periods of time, of progressive agricultural industry as a whole. They admit that in the last one hundred and fifty years this law has not applied to progressive countries, since invention and discovery have kept well in advance of any tendency of population to increase or natural resources to become exhausted, but they maintain that these years have been highly exceptional. It would be premature to try to pass on the truth or falsity of this opinion at this point—we shall return to the question in the concluding chapter—but it cannot be too strongly emphasized that in advancing it, or its opposite, economists present themselves as seers rather than as scientists. The ascertained facts of the past afford a basis for instructive speculations as to the future, but our knowledge is still too meager to warrant us in presenting these speculations as economic principles or laws.

Social Influences Important.

§ 75. In the preceding sections the natural differences between different pieces of land have been discussed as though they alone determined the importance of land to man. That this is far from being the case is illustrated on every hand. Each year sees large tracts of land in the United States enhanced in value simply because of changes in market conditions or improvements in the means of transporting products to the market. To some extent the growth of markets is itself determined by natural conditions, but it will be simpler to regard it as the result of social changes. In fact natural and social influences act and react upon the value of land in such a complex way that it is vain to try to separate them. A few illustrations will suffice to put in its true light the importance of the social factor.

China and the United States are said by geologists to be

about equally endowed with coal and iron resources. Nevertheless, while the coal and iron mines of the United States are worth thousands of millions of dollars, the deposits of China are of little value. This is obviously not because China is a new or sparsely peopled land. It is entirely because the "age of steel" has not yet dawned there, or is only just beginning to dawn. Another one hundred years may see the coal and iron resources of China as highly valued as are those of the United States to-day. Such a change will be due to social influences, the natural advantages of the two countries having undergone no alteration.

Suburban and Country Acres Contrasted.

A similar contrast is presented when agricultural land on the outskirts of a city and equally fertile land hundreds of miles away from any market are compared. The first point to be noted in comparing pieces of land so differently situated is the different uses to which the two pieces will be put. The back-country acre will be sown with some staple crop, such as wheat, corn or cotton, since it alone will repay the expenses of transportation to the distant market. To it labor and capital will be applied probably only up to the point where the tendency to diminishing returns shows itself, because, in the given situation, it will pay better to apply additional labor and capital to new land than to press cultivation beyond this point. The suburban acre, on the other hand, will be sown with the most delicate and perishable vegetables in demand in a city market. Labor and capital in the form of fertilizers, etc., will be applied far beyond the point of diminishing returns because the quantity of land near the city which can be utilized for truck farming is exceedingly limited and city prices for green vegetables are so high that very intensive cultivation is profitable. From the point of view of profit the back-country farmer may be on the very margin of extensive cultivation, that is, his expenses, increased largely by the freight he must pay to get his crop to market, may just about equal the price he receives for his crop. The suburban farmer, the native fertility of whose land was assumed to be the same, is sure to reap a high rent from his business. The final "doses" of labor and capital he applies to his land may be just paid for in the price he gets for the additional produce

that results from them. It is to his interest to continue his cultivation so long as it is remunerative. But all earlier applications of labor and capital will be more than covered by the price received for what they added to the product. As a whole his acre will show at the end of the year a high rent over expenses, ascribable to its nearness to the market or to social rather than to natural conditions.

High Value of City Real Estate.

A still more striking contrast is presented by a comparison of city real estate, priced by the square foot, with agricultural land, priced by the acre. Next to man's need for food and clothing comes his need for shelter or for a house. Food and clothing may be produced at great distances and brought to him from day to day in the small quantities that he requires. A house must be available in its entirety all the time, and it must not be so far away from his place of business as to make his daily trips back and forth unduly irksome. This accounts for the fact that when land begins to be thought of for building purposes its importance is at once greatly enhanced in human estimation. The more concentrated the activities of a city and the larger its population, the greater will be the demand for each piece of land favorably situated for building. Thus as a place changes from a country four-corners to a village, then to a town and then to a city, the values of building sites within its limits tend to rise, although with many fluctuations as regards particular quarters, and the rents which their utilization affords to increase correspondingly. The invention of the bicycle, the trolley-car and other conveniences for passing quickly and easily from one's place of business to one's house may check this tendency somewhat, and, if these improvements follow one another rapidly, may check it entirely or set up a counter tendency, but during the last quarter of a century the increase in the value of city real estate and of the rents that such property affords have been phenomena common to all civilized countries. How far this may go in particular instances is illustrated by the fact that a lot sold in the heart of London recently for a price which would make an acre of unimproved land in that locality worth $3,000,000. In the Wall Street section of New York City land has been sold for as much as $800 a square foot ($3,712,000 an

acre). In these cases also the increased value and correspondingly enlarged annual return are ascribable to social influences.

Value of Land Often Due to Human Forethought.

Generalizing on these illustrations, we may conclude that differences in situation in respect to markets and other social conditions are quite as influential as natural differences in determining the importance of different pieces of land and the rents they afford. When these social conditions are created by the forethought, enterprise and labor of some particular individual or group of individuals, as when, for example, a suburb is deliberately planned and brought into being by a syndicate of real-estate operators, we have a case similar to that presented by the modification of the character of agricultural land by drainage or fertilization, in which it is very difficult to distinguish man's purposive share in the result from the share of an unconsciously evolving community. These difficulties receive fuller consideration in the chapters on Distribution.

Definition of Rent.

In discussing rents it has been assumed that the man who uses the land is also the land owner. In European countries and to an increasing extent in the United States this is not the case. Land ownership is coming to be more and more divorced from land utilization and as a result the extra profit ascribable to the superiority of particular pieces of land is clearly distinguishable from other forms of profit going to the cultivator or occupier. It must be paid as " rent " to the land owner, or the latter will prefer to cultivate or occupy the land capable of affording such profit himself. In future this share of wealth will always be referred to as " rent " to distinguish it from other shares to which the designation " profit " more properly belongs.

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CHAPTER IX

PRODUCTION: LABOR AND CAPITAL

Man as Producer.

§ 76. The chief factor in production is man, the active director of all enterprises. His contribution depends partly upon his capacity as an individual and partly upon the way in which his efforts are applied, that is, whether to direct or to capitalistic processes of production, or whether independently or in coöperation with the organized efforts of others. Each one of these circumstances merits separate consideration.

Qualities Influencing His Efficiency.

The principal qualities which determine an individual's capacity as a producer are the following: (1) health, (2) physical strength and endurance, (3) intelligence, (4) judgment, (5) ambition, (6) energy, (7) perseverance, (8) imagination, (9) mechanical ingenuity and (10) technical knowledge. The importance of health and physical strength, especially to those doing manual work, is obvious. Intelligence and judgment are important adjuncts to the man with pick and shovel; they are indispensable to men in the higher grades of industry. Ambition, energy and perseverance are qualities that characterize all the world's greatest men, and without which other qualities are of little value. Imagination is important because to it are traceable all great inventions and discoveries. Mechanical ingenuity, though less important to the mass of men than formerly, when fewer tasks were performed by automatic machinery, is still a valuable quality. Technical knowledge, on the other hand, gains each year in importance as the ways of doing things that are found to be most efficient increase in complexity. It is evident that the importance of these different qualities depends upon the kind of work to be done and that industrial progress tends to lessen the importance of some while it increases that of others.

§ 77. The above qualities, like other human characteristics, are either inherited or acquired. Whatever their origin in

special cases the same general conditions, acting either on successive generations or on living men, account for their presence. A few words will serve to suggest what these conditions are.

Conditions Favorable to Health and Strength.

The circumstances influencing health and strength are well understood. Fresh air and exercise, good food, adequate protection from dampness and sudden changes in temperature and the avoidance of all kinds of excesses, are the principal requisites. Of these good food is perhaps the most important. The human body resembles a machine, and the amount of work it can do depends very largely on the quality and quantity of the fuel, that is, the food, with which it is supplied. Up to the time of the industrial revolution Germanic peoples enjoyed many of the above conditions and the physique of the race was consequently well developed. The introduction of machinery has served to concentrate the populations of advanced countries to an ever-increasing extent in cities and to substitute for open-air work, work indoors in shops and factories. There has been reason to fear that this might permanently impair the health and vigor of those very peoples which have led in the race for industrial ascendency, not only because of its direct effect, but also because the monotony of such labor fosters dissipation. To counteract these evil tendencies vigorous measures have been resorted to, notably in England and Germany, where sanitation and factory acts have been passed by the government and where coffee-houses, workingmen's clubs, etc., as substitutes for the saloon, have been created through the efforts of private individuals. A great deal of attention is being given, especially in those countries which maintain large standing armies, to the question of determining what diets are best for people doing different kinds of work, and model kitchens are being organized in the poorer quarters of cities to teach people to appreciate nutritious and properly prepared foods. Efforts to improve the tenement houses in which the populations of the larger cities live are also being put forth and with some success. Mention should also be made of the public baths, the playgrounds for children and the open-air gymnasiums which are being erected in those cities in Europe and America which are most progres-

sive in caring for their inhabitants. Finally, it would be difficult to exaggerate the importance of the efforts that are just now being made to stamp out that most devastating disease from which the human race has suffered, consumption. As is shown by mortality statistics, these efforts are beginning to bear fruit in the improved health of present-day city populations, but much yet remains to be done for both city and country people. There is no form of philanthropic activity which is more certain to benefit mankind than that designed to improve the conditions under which the mass of men live and work. Restored health and vigor are blessings in themselves, but equally important is the fact that they make for more efficient production and enable their possessors not only to hold what they have gained, but to add steadily to their advantages through their increased earning power. Every improvement that can be made in home and factory surroundings without undermining the independence and self-respect of the population is thus a certain means of "helping people to help themselves."

Intelligence and Judgment.

The development of intelligence and judgment depends largely upon education, and here too undoubted progress has been made. In place of the formal and traditional methods that have prevailed in the schools, methods having direct reference to the organic development of children are beginning to be introduced. Moreover, the proportion of children who go to school is on the increase, and the expenditures that modern states make for public education are growing. Nevertheless there is still much to criticise in current educational practices and in the short-sightedness of democratic states in not contributing even more liberally to the support of education. In it lies the hope of the future, since through its agency the standards of each generation of children are elevated. These higher standards may be passed on to the next generation of children to be raised still further in the schools, and so the process may be repeated with steady progress as its necessary consequence. If improving educational advantages are added to steadily improving home surroundings, the advance of the race cannot fail to be rapid.

Ambition, energy and perseverance depend partly upon a

Ambition, Energy and Perseverance.

people's range of wants in comparison with the means to their gratification, and partly on the probability which the situation presents that effort and enterprise will be crowned with success. These qualities are conspicuously lacking among a people which has developed few wants and whose means of livelihood are so limited by natural and social conditions that even the greatest efforts cannot result in a large command over economic goods. They are as conspicuously present among a people with numerous and varied wants to which are open a great variety of promising ways of acquiring wealth. This contrast is well illustrated by the differences between the peasantry of Europe and the plain people of America. Poverty of resources and the restrictions of a class organization of society tend to stifle the ambitions of the former as markedly as wealth of resources and absence of rigid class barriers tend to stimulate those of the latter. The most desirable situation for the fostering of these qualities is evidently one in which different scales of living prevail side by side and in which at the same time equality of opportunity is preserved. The danger in a country like the United States is that an aristocracy of wealth may grow up to monopolize the easiest means of acquiring further wealth and to hold the mass of the people down to working for mere wages. Under such circumstances different scales of living would foster not ambition but merely a sense of injustice and oppression in the minds of those who have little prospect of improving their condition. This danger must be kept in view in connection with the question of limitations that it may be desirable to impose upon monopolies and the rights of property.

Imagination, Mechanical Ingenuity and Technical Knowledge.

The conditions favorable to the growth of imagination, mechanical ingenuity and technical knowledge call for no extended discussion. Imagination is still little understood. It seems to be fostered by variety of surroundings and experiences, and by attention to unsolved problems which contain an element of mystery. Perhaps the most that is to be hoped for from present educational methods is that they will permit some part of the imagination which seems to be natural to childhood and youth to be carried on into manhood. Manual training, to which more and more atten-

tion is being given in the United States and abroad, is, of course, directly productive of mechanical ingenuity. The greatest progress made in connection with any of the enumerated qualities is to be found in the field of technical knowledge. Technical schools, technical courses in colleges and universities, technical correspondence and evening classes and technical journals unite to bring the knowledge necessary to efficient production within the reach of all. In addition to these admirable facilities for disseminating knowledge already acquired, more and more attention is being devoted to the acquisition of new knowledge. Every state in the United States has at least one privately or publicly endowed university intended to encourage scientific research. To supplement these are the national institutions dedicated exclusively to research work, the Smithsonian and the recently founded Carnegie Institution. Moreover, many individuals are devoting their lives and their fortunes to experiments directed toward discovering improved methods of gratifying human wants. Taking all of these things into account we may predict with confidence continued progress in the technique of production.

Tendency of Evolution.

Coöperating with the conditions favorable to the development of individual capacity that have been enumerated are the silent forces of evolution. Although interfered with by the growth of benevolent instincts and agencies which intervene to preserve many of the unfit from destruction, these forces aid powerfully in the process by which each people surrounded by a favorable environment becomes fitted to make fullest use of that environment. Weak and incapable lines of heredity are cut off in each generation and the field is left to the stronger and more capable. In prosperous communities the weeding-out process affects not merely the underdeveloped and underfed, but the overdeveloped and overfed. Dissipation is as common a cause of premature death and failure to continue the line of heredity as starvation. Evolution thus operates not only to enable each succeeding generation to get a larger return for its efforts, but to educate it to a wiser use of its material advantages. The surviving type of successful man is less and less self-indulgent and more and more philanthropic in his instincts and habits as generation follows

generation. From this it results that progress itself causes more and more attention to be devoted to the conditions leading to progress and hence tends to be a cumulative process.

Capitalistic Production.

§ 78. Given a certain standard of individual capacity on the part of a population, its productiveness depends next upon the extent to which its methods are capitalistic. By capitalistic production is meant production which attains its ends, not by the direct and immediate creation of consumable goods, but indirectly through the creation first of tools, machines and other material aids to production and the creation subsequently, with the help of these capital goods, of the consumable goods desired. Capitalistic production is thus roundabout instead of direct, and involves a longer interval of time between its inception and its completion. It can be adopted only by men who are willing to forego immediate gratifications and to permit their incomes to assume the intermediate form of capital goods so that in the end a larger output of consumable goods may result. Such conduct involves *abstinence* from present consumption, *saving* income or productive powers instead of using them to minister to immediate consumption and *waiting* until the longer productive process shall be completed. "Abstinence," as the term is here employed, denotes simply not doing something that ordinarily it would be pleasant to do. It need not necessarily involve any element of pain or sacrifice, because the purpose accomplished through it may be even pleasanter than the things abstained from. Usually, however, abstaining from present consumption does involve some sacrifice for the psychological reason already explained (Section 40).

Its Advantages.

The superiority of capitalistic over direct production and the reasons for it will appear clearly from a simple illustration. One of the most urgent needs of a pioneer in a new country is for fresh water. Having found a spring he may gratify this need by scooping up the water with his hands. This will be direct production. Or he may make a cup in which he can dip up, by stooping once, all of the water he can drink. Such a cup will be a capital good and the process will be capitalistic production. It will multiply largely the

return resulting from the effort of stooping. Or he may fashion a larger vessel in addition to his cup with which he can dip up at one time all of the water he requires for a whole day. This will be more highly capitalistic production. Or, finally, if the spring happens to be at a higher level than his cabin, he may construct a trough of hollowed logs capable of conducting the water from its source to his very door. This will be much more highly capitalistic production than either of the other processes, and its return will be correspondingly larger. The force of gravity will now relieve him entirely of the task of carrying the water, and all that he will need to do to secure an abundant supply will be to keep the spring clean and his trough in repair.

This illustration is typical of the advantages of capitalistic production. It enables man to apply his own efforts more effectively, as when he uses tools or implements, or to command the assistance of natural forces which without the aid of capital goods would be beyond his control. The forces of gravity, steam, explosive gases and electricity can be utilized effectively only in connection with the forms of capital appropriate to them. For these reasons a given expenditure of effort in capitalistic production is usually more fruitful of results than the same expenditure in direct production, and, the more highly capitalistic or prolonged the process, the larger, generally, the return in consumable goods for each unit of effort expended.

Capital Goods and Capital.

§ 79. Business men are in the habit of speaking not of "capital goods," but of "capital." By this they mean sometimes capital goods themselves, but more often these goods measured in terms of money. Capital goods wear out and need to be replaced. Individually they come into being, are used and are then discarded. But capital, as the business man thinks of it, is more permanent. It is the complex of capital goods, used in connection with each branch of production, measured in terms of money. To the extent that prices are stable and that the efficiency of production is maintained, the money equivalent of this complex of capital goods changes little if at all. Each year's inventory shows about the same aggregate, although each year the particular capital goods

embraced in the inventory may be different from those of the year before.

Fixed and Circulating Capital Goods.

In comparing different methods of capitalistic production two factors must be considered: the average amount of capital required for each process and the average time that elapses in each case before this capital is completely used up or converted into consumable goods. For example, compare two branches of manufacturing in one of which the entire equipment of capital goods has to be renewed on an average once a year, while in the other the equipment requires renewal only once every two years. If each factory requires exactly the same amount of capital from day to day the first will require for continuous production twice as large a replacement fund as the second because its capital goods wear out twice as fast. Economists give precision to the contrast indicated in this illustration by distinguishing between *fixed* and *circulating* capital goods. Fixed goods are those which endure for some little time without replacement. Circulating goods are those, like coal, which are destroyed in a single use. It is obvious that these are relative terms and that capital goods present all possible gradations of fixity.

Mobility of Capital Goods.

Capital goods differ also in the extent to which they are *specialized* or *free*, or in their *mobility*. Raw materials such as coal, iron, etc., are as a rule very mobile. They may be devoted at will to any one of a dozen different productive uses. On the other hand, machines, buildings, etc., are specialized and either cannot be diverted to any other use than that for which they were originally designed or not without a great loss in value. Permanent improvements in land are of course quite immobile and an unwise creation of this type of capital goods may result in complete loss without possibility of recovery.

Money.

Some writers have asserted that of all forms of capital, money is the most mobile, having in mind the ease with which it may be exchanged for other goods. This important quality is not mobility, but *exchangeability*. From the point of view of mobility, money is a highly specialized capital good. This is particularly true of paper money, which becomes practically valueless when deprived of its monetary quality.

Fixed and Specialized Capital Increasing.

With the extension of capitalistic methods of production the proportion of fixed and specialized capital goods shows a tendency to increase. This results in lessened mobility for capital goods as a whole and is one of the causes of the prolonged periods of depression which nearly always follow business crises under present conditions.

Labor Also Subject to Law of Diminishing Returns.

§ 80. The law of diminishing returns has already been explained in connection with the discussion of the part which land and natural forces play in production (Section 74). A similar law applies to the other factors in production, labor and capital. To understand the operation of this law, let us consider the situation of colonists in a new country where land of the best quality is superabundant, but both labor and capital are scarce. Under these circumstances land will be practically free to any one who will cultivate it. The colonists will first supply themselves with those forms of capital that are most urgently required—buildings and agricultural tools and implements of different sorts, boats, nets, guns, etc. For a time new implements of these various kinds will be so important as aids to further production that no law of diminishing returns will manifest itself. If the working population remains stationary, however, and continues to add to its equipment of capital goods, *without altering in any important respect its methods of production,* after a certain point has been passed additional capital goods will add less than proportionate returns to the combined products of land, labor and capital. This is merely another way of saying that after each worker has a fairly complete equipment of tools and implements, duplicate tools of some sorts and more refined implements of others will add to the product less in proportion to their cost than did the tools and implements first acquired. If tools and implements continued to be added to the equipment of our assumed colony and *there was still no important change in methods of production,* a point would obviously be reached at length where every worker would have every aid to efficient production which he could possibly use and additional capital goods would render no service whatever to production. In actual life the law of diminishing returns is never likely to be pressed to this extreme limit, because in

practice the supply of capital will probably never be increased to the point at which every worker has all the capital goods that can be utilized in connection with his labor and because increasing capital itself brings about the changes in methods of production, such as the substitution of power machines for hand tools, that are assumed to be absent. The fixed force of workers in the assumed industrial colony is analogous to a limited supply of land. In each case the addition of successive increments of capital adds to the size of the product, but, after a certain point has been passed, the addition is only at a diminishing rate. The invention of new and more efficient forms of capital goods may and in practice constantly does postpone the period when the law of diminishing returns will begin to operate as regards either land or labor, but this in no wise lessens its importance as one of the far-reaching tendencies of which economics must take account.

Also Capital.

That the same law applies to capital becomes evident when it is considered what would result if its supply were fixed while successive additions were being made to the working population. With every increase in the number of workmen, it would be necessary to utilize the available tools, machines, etc., more intensively. For a time this might be done without any tendency toward diminishing returns, but this could not be the case indefinitely. Sooner or later, as bare-handed workmen continued to be added, the fixed fund of capital would show diminishing returns just as did the fixed labor force when the conditions were reversed.

Law of Diminishing Returns Generalized.

Diminishing returns must after a time result from either situation because of the general principle that the most effective coöperation between labor and capital is only realized when they stand in the right quantitative relation to each other. If after this relation has been established capital goods increase while the number of workmen remains fixed, or workmen increase while capital goods remain unchanged, the cooperation between them must be rendered less effective. If both factors increase together there will be no occasion for any reduction in the return so long as new land equal in quality to the old is available. It is therefore not the increase in the expanding factor alone that causes the diminution, but

that increase coupled with the lack of response on the part of the other factor.

Methods of Acquiring Capital.

§ 81. The only method by which an isolated producer can acquire new capital is by applying his own efforts to its creation. He must *produce* it as well as *save* it. In industrial society the production of capital goods is effected like the production of consumable goods usually through the agency of business managers who produce for the market. The "saving" which causes production to take this direction is performed by a different set of people conveniently designated as capitalists. A few illustrations will serve to show how the savings of capitalists serve to bring capital goods into existence.

Saving and Investing.

(1) A farmer who wishes to enlarge his barn saves part of the money he receives for his crop and uses it to buy lumber and to hire masons and carpenters to make the desired improvement. In this case by buying lumber he encourages the production of more lumber, or virtually hires lumbermen, sawmill hands, etc., to produce this kind of capital good, just as he subsequently hires men to convert it into a new wing to his barn. He turns over to others his command over society's wealth, which they use to gratify their wants. In return he receives the addition to his barn, a new capital good added to society's productive equipment.

Borrowing and Investing.

(2) Very often the farmer who wants a larger barn is unwilling or unable to save enough to pay for it himself. If he is a man of enterprise he is not likely to be deterred by this circumstance from taking steps to obtain it. Having a valuable farm to pledge as security, he is in a favorable position to borrow. He may apply to a well-to-do neighbor who has saved the money needed out of his income and is looking for a chance to invest it. In this case the neighbor does the saving and thereby makes possible the building of the addition; the farmer decides how the saved income shall be invested in a concrete form of capital, taking all the risk of the venture and insuring the lender against loss by pledging, or mortgaging, his farm. The actual creation of the addition results as before from the labor of woodchoppers, mill hands and carpenters, who are paid for their services as they render them.

Borrowing from Banks.

(3) Instead of applying to a neighbor the modern farmer who wishes to borrow money is more likely to apply to a bank, an institution which receives on deposit individual savings and lends them, together with its own capital and credit, to customers. In this third and most typical case, the saving of income is performed by the depositors of the bank, who know nothing about the ultimate disposition of their savings. The lending is performed by trained men who give much of their time and thought to this business, the bank officers, and the investing or conversion of the purchasing power into capital goods is done as before by the farmer.

Borrowing Not Always for Investment.

In these ways and in others too similar to require separate description the accumulation of capital goods results from saving. Not all saving, however, leads to an increase of capital. The deposits in a bank may be loaned to some one who wishes to spend them for consumable goods. In such a case, what depositors abstain from spending, borrowers spend, and the community's stock of capital remains as it was before. In order to cause an increase in capital, saving must be supplemented by investing, unless, indeed, it takes the form of hoarding, which is unusual in modern communities.

Saving and Waiting Necessary to Existence of Capital.

§ 82. It is important to see clearly the essential rôle which saving and waiting play in the accumulation of capital because much current criticism results from the fact that this is entirely overlooked. Many socialists, for example, maintain that since capital goods are, like other goods, the products of human industry and since no one can justly claim credit for the part which land and natural forces play in production, all products should by rights go to the workers. In asserting that capital goods are produced like other goods they are, of course, entirely right. What they ignore is the fact that the workers who help to produce capital goods desire immediate means of gratification and must be paid their wages long before the capital goods which they help to produce have begun to bring in any return. These wages and the consumable goods for which they are expended must thus come out of the savings of some other group in the community, which must wait for its recompense until the products arising from the use of the capital goods become available. The contrast

is shown very well in the above illustrations. In the first, the farmer has himself accumulated the fund of wealth necessary to make the addition to his barn. To do so he has had deliberately to abstain from spending his income on immediate enjoyments. Some farmers are doubtless so ambitious and provident that this entails no sacrifice, but for the *average farmer* it certainly does. If the farmer has failed to accumulate the needed fund of wealth himself, he may yet secure the addition by borrowing from a neighbor or a bank. This merely transfers the necessity of saving to other men in the community. If the bank in question happened to be a savings bank bringing together the savings of wage-earners, there would be little room for question that the saving, which is absolutely necessary to the production of the new capital goods, had entailed sacrifice.

Economic Cause of Interest.

But whether saving, in any particular instance, involves sacrifice or not it is clear that capital goods can only be brought into existence on condition that some one—or organized society itself—*abstains* from immediate consumption and *waits* until the products of capitalistic production become available. Interest is the reward for waiting, and until some other method of securing capital goods has been devised its payment out of the greatly multiplied products of capitalistic industry is as legitimate as the payment of wages, the reward for working. In neither case is the economic reason for the payment the sacrifice or effort of the recipient. It is rather the valuable contribution made to production, out of which contribution, at last analysis, the payment comes.

Capital Goods the Things Saved.

In the above illustrations "money" or "income" is spoken of as the thing "saved." Money is, of course, merely the medium by means of which control over one kind of wealth which the individual does not want is exchanged for control over another kind which he does want. What is really saved in every case is the capital goods themselves which are brought into existence directly or indirectly by the investment. Thus in the examples given the addition to the barn is saved and added to society's capital equipment.

Often investment is thought of, especially in cities, as buying real estate, or stocks or bonds. Such purchases are invest-

Buying Stocks and Bonds Does Not Add to Capital.

ments from the point of view of the individual, but to the community as a whole they represent simply transfers of ownership over capital goods already in existence. The investment proper appears when the purchasing power exchanged for stocks or bonds is used for the development of some new or for the better equipment of some old enterprise. Just as money deposited in a bank may fail to lead to any net addition to capital, so money invested in stocks or bonds may finally be spent by the previous owners of these securities for consumable goods and leave no trace behind.

Kinds of Capital Goods.

§ 83. Capital goods have been defined as products of past industry used in the present, as means, not to the direct gratification of wants (consumption goods), but to further production. They include all the *intermediate products* which figure in roundabout or capitalistic production. The principal varieties of capital goods are:

(1) Permanent improvements in the physical environment, in the form of drainage systems, canal excavations, tunnels, roadbeds, etc.

(2) Buildings of all kinds except those serving no industrial purpose.

(3) The rolling stock of railways, vehicles of all kinds, etc., not used merely for pleasure.

(4) Tools and machinery.

(5) Farm and draft animals.

(6) Seed, raw materials and partially finished goods in process of production.

(7) Finished goods in the hands of dealers.

(8) Money.

Land and Capital.

In connection with " permanent improvements " a difficulty is encountered that has caused no little confusion. Land as a gift of nature is not regarded as a capital good. But permanent improvements in land become for practical purposes portions of the land itself. Thus in old countries most land is partly a gift of nature and partly a capital good and it is often impossible to distinguish between the two. A simple way out of this difficulty is to describe land also as a capital good, and this is done by the business community and by some economists. To the writer simplicity so secured seems bought

at too high a price, since it involves a disregard of the distinction, believed to be fundamental, between man's part in production and nature's part. A better plan seems to be to accept the difficulty as inevitable and to recognize that in distinguishing between what is and what is not capital, economists have the same sort of task as confronts biologists in distinguishing between what is animal and what is vegetable. As regards most things classification in both instances is easy.

Personal Qualities Not Capital.

Along the same line is the temptation to include as capital goods, skill and training that have been acquired as the result of "investments in education." From one point of view such acquired aptitudes for production should be included. Their origin, so far as motives are concerned, is similar to that of other capital goods. Moreover, like other capital goods they are aids to further production. Yet economists generally decide against such inclusion because they deem it important to distinguish sharply between man and the material aids he uses in production. On the whole it seems best to adhere, in the present treatise, to this plan of classification.

Reasons for Describing Dealers' Stocks as Capital.

Objection is sometimes made to the inclusion of "finished goods in the hands of dealers" in the list of capital goods. But this follows logically from the principle (which has already been defended) that trade is a branch of production. An important requisite to the efficiency of production is a regular and continuous ministering to the wants of consumers. Most economic goods must be forthcoming regularly from day to day or at particular periods in order to possess high utility. To secure this result the business organization of society must provide, first, for the carrying over of stocks of goods, such as agricultural products that mature only periodically but that are needed continuously, and, second, for the carrying of sufficient supplies of goods that mature continuously, to insure a continuous stream of commodities from producers to consumers, no matter how far they may be removed from one another. Thus wheat production is efficient in proportion to the care with which the crop harvested during the summer months is handled so as to meet the community's need for bread during the entire year. All of the conveniences, such as elevators, warehouses, etc., which contribute to this end,

as well as the stored wheat itself, are capital goods. In the same way if it takes, on the average, thirty days to transport bananas from the growers in Central America to consumers in American cities it is indispensable to the efficient production of this fruit that a stock equal at least to thirty days' consumption be kept regularly in transit either in the warehouses of shippers, on the ocean, in the warehouses of wholesale dealers or ripening in the shops of retail vendors. Such a stock is a part of the community's capital goods.

Money. The last kind of capital good enumerated, "money," is too important to be dismissed with a few words and is therefore treated in separate chapters (Chapters XIX.-XXI.).

Progress in Capitalistic Production: Middle Ages. § 84. The development of capitalistic production to anything like its present proportions is of comparatively recent date. During the Middle Ages the capital goods used were so few and crude that each producer supplied himself with his needed equipment without great difficulty. Instead of commanding interest the accumulated wealth of the rich had often to be stored and a fee paid for its safe-keeping.

Growth of Commerce. As commerce developed there was an increasing demand for capital in the form of vessels and goods with which to stock them, and merchants, like Antonio in *The Merchant of Venice,* were often able to turn their accumulations to very profitable account. The use of tools and machinery in agriculture and manufacturing made little advance, however, before the period of the industrial revolution. During all these centuries the chief service of saving with a view to the future was in connection with the preservation of flocks and herds and the husbanding of the food supply and seed from one harvest to the next and from years of abundance to the lean years that were sure sooner or later to follow.

Influence of Industrial Revolution. Since the beginning of the last century capitalistic production has advanced in the Western World by leaps and bounds. In place of simple hand tools and foot- and horse-power machines, complex machines driven by water, steam, electrical or gas power have come into use. These have been multiplied so rapidly that the average capital equipment of the modern producer is easily a hundredfold larger than that of the medieval workman. Enormous investments have been made

also in improved transportation facilities and in buildings for the safe housing of machinery, operatives and goods. As a result of this progress in capitalistic production and of the parallel discovery and invention of new and more efficient kinds of capital goods, the productiveness of human industry has been immensely increased. A large part of this increased return goes as interest to those who allow their wealth to remain in the form of capital in preference to converting it into consumable goods for the gratification of their immediate wants. The part that remains as the wages of labor has also grown, however, so all classes have derived material benefit from the change.

Conclusion.

Since capitalistic processes add so largely to the productiveness of industry, the development of thrift, or a willingness to forego present gratifications for the sake of the future, is an important condition to progress. What is most needed is not a general development of thrift, for many individuals are already inclined to carry saving to the point of parsimony, but a development of it, or of the prudence and forethought on which it depends, among the working classes. Accustomed for generations to live from hand to mouth, wage-earners are only just beginning to appreciate how much the accumulation of property may contribute to their well-being. Its principal advantage for them, individually, is that it will serve to carry them over periods of unemployment without that loss in efficiency that is the most pitiful result of enforced idleness for men who have nothing to fall back upon. For the whole community the aggregate savings of a thrifty laboring population would cause a great increase in its equipment of capital goods, and a corresponding improvement in its industrial processes. On both accounts the development of providence and forethought among the masses is earnestly to be desired. Equally important are improvements in the conditions of wage-earners which will encourage them to save by rendering spending up to the full limit of their incomes less imperatively necessary.

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CHAPTER X

PRODUCTION: COÖPERATION AND BUSINESS ORGANIZATION

Coöperation.

§ 85. Important as is an individual's capacity as a condition determining his productive efficiency, the way in which he coöperates with others is even more essential. Alone, a man can do little more than keep himself alive, even in the most favorable environment. Working in coöperation with others he so multiplies the results of his toil that he can provide himself with comforts and luxuries as well as with necessaries.

Varieties of Coöperation.

Three varieties of coöperation may be distinguished: (1) Simple coöperation, that is, the simple working together of several for the attainment of a common purpose, as when several unite to move a stone or raise a mast. (2) The division of employments, by which each gives his entire time to some one branch of production, such as farming, boat-building or shoe-making, and exchanges his products for the products of others. This is commonly described as the *simple division of labor.* It is an indirect form of coöperation in that in realizing it men work together not at the same but at different tasks, expecting to share their unlike products by means of exchange. (3) The subdivision of tasks in each employment, as when in shoemaking one makes the soles, another the uppers, another combines them, etc. This may be conveniently designated as the *complex division of labor* and is a chief characteristic of the factory system. As coöperation it also is indirect.

Importance of Growth of Markets.

Progress in indirect coöperation, or the division of labor, depends upon the development of markets and other facilities for exchange. For example, a man cannot be a shoemaker unless shoes are in demand by people willing and able to pay for them. Much less can a shoe factory be organized, with

its elaborate subdivision of tasks and large output, unless shoes can be sold at remunerative prices. From this it may be inferred that every improvement tending to widen the market for goods is favorable to a further extension of the division of labor. The truth of this conclusion is abundantly illustrated by the history of the last one hundred years.

Influence of Improved Means of Transportation.

Before the era of steam vessels and steam railways the market for most products was restricted by the high cost of transportation to limited areas near the sources of supply. Each region had to produce for itself its bulkier food articles, building materials and implements, and could import from, or export to, other regions only those products which were light and costly. Under these circumstances the division of labor could be little practised. Country districts afforded employment to a blacksmith, a carpenter and a few other specialists. A few cities grew up where those goods which could pay the relatively high costs of transportation were manufactured. But the majority of the people were forced by the conditions to give their attention to agriculture as the only means by which they could earn a living. Steam and, more recently, electrical transportation have changed this situation. At present the cost of carriage offers no insurmountable obstacle to the shipment of even cheap and bulky articles, such as wheat and coal, half-way round the world. For most goods, in place of a merely local market, there are now general markets ranging in magnitude from the market afforded by a large city to that of the whole world. Perishable goods, services and goods for which there is only a local demand, must still be produced on a small scale to meet local requirements, but the proportion of these goods to the whole mass of products is constantly diminishing. Even fruit and fresh meat have ceased to be perishable in the sense that they will not bear transportation to distant markets. Accompanying this widening of markets there has been a concentration of special industries in special localities and of business management in fewer and fewer hands. In this way full advantage has been taken of opportunities for extending the division of labor, with the result that the volume of goods produced has been enormously increased.

§ 86. Capacity to coöperate depends upon certain well-defined qualities as much as does individual capacity to produce. Of these qualities the principal are: (1) honesty, (2) steadiness, (3) a spirit of conciliation, (4) ready obedience to superiors and (5) organizing ability. The first four are necessary to the mass of men and will be considered here, the last is necessary chiefly to those who assume the task of industrial leadership and will be considered in a subsequent section.

Qualities Necessary to Effective Coöperation:

Honesty is indispensable to mutual confidence, and coöperation cannot be carried far unless men trust one another. Steadiness is necessary, because without it a complex division of labor would be wasteful rather than economical. When tasks are subdivided the performance of each successive one must wait upon the performance of the preceding. Unless all or nearly all the workmen in a factory are present at the same hours each day the whole process is disturbed. A spirit of conciliation is necessary because working together involves being together, and this entails constant friction unless each is willing to make concessions. Finally, ready obedience to superiors is essential to the success of a complex division of labor, because this involves planning by one set of people and execution by another.

Honesty.

Steadiness.

Spirit of Conciliation.

Obedience.

These qualities are fostered by the very division of labor to which they are necessary. In other words, those peoples who have been accustomed to the division of labor longest have them most highly developed, while those who have only known isolated production are usually lacking in some if not in all of them. From this it results that the introduction of a division of labor into a new region is usually difficult, while its extension after it has once been established becomes increasingly easy. The disciplinary value of a complex division of labor is clearly shown by the contrast between an industrial and an agricultural population. The former is steadier and more social, while the latter is more independent and self-reliant.

These Qualities Fostered by Coöperation Itself.

§ 87. The three forms of coöperation that have been described assist production in a variety of ways, of which the principal are as follows:

Advantages of Coöperation.

(1) Men working together, as in the building of the Pyra-

minds, can do things which men working singly could not possibly do.

(2) By simplifying the work of each man, a division of labor shortens the time needed to master a trade. In place of the seven years' apprenticeship once necessary, modern methods of production call for but a few months special training for most positions.

(3) The division of labor offers a varied field for industrial activity and thus enables each man with special aptitude or talent to devote his entire time to the work for which he is best fitted.

(4) By reducing the labor of each man to a few simple motions the complex division of labor is favorable to the acquisition of great dexterity. Hand and eye come to act almost automatically and with a quickness and accuracy unattainable by a man constantly varying his task.

(5) The same simplification and concentration of effort are favorable to the progress of invention. When work is so subdivided that each hand makes but two or three simple motions, the time is ripe for the invention of a machine to take the place of labor. Thus the goal toward which the division of labor is ever tending is the invention of labor-saving machinery.

(6) Coöperation permits the most economical use of land and natural forces. Each section may be devoted to the production of that particular good for which it is best fitted just as each man may devote his time to his chosen specialty. This is called the *territorial division of labor* and is increasingly important as improvements are made in methods of transporting goods from the place of production to that of consumption.

Disadvantages of Coöperation.

§ 88. Against these advantages of coöperation must be weighed one decided disadvantage. Specialization is narrowing. If it requires a man to work long hours with his muscles it is likely to cut him off from opportunities to develop his mind. On the other hand, if it limits him to an intellectual pursuit it is likely to deprive him of the vigorous exercise needed by his muscular system. Specialization is inimical to that all-round development of character and capacity which

is the natural consequence of varied interests and varied pursuits. Carried to excess it unfits men for the enjoyment of that very wealth which it helps them in such large measure to secure.

Other Considerations.

In giving full weight to this disadvantage it must not be overlooked that coöperation, especially as it is developed in connection with the factory system, serves to bring specialists together and give them the benefit of that social intercourse which the isolated producer so sadly misses. Those who work in factories describe the social aspects of their labor as in large measure compensating them for the monotony of their simple tasks. If increased leisure could be added to the interchange of ideas which the factory permits, the evils of specialization would be reduced to a minimum.

Statistical Evidence of Benefits from Coöperation.

§ 89. It is not easy to show in a statistical way how much the world owes to progress in coöperation and the division of labor. An important incident of this progress has been, as already suggested, the invention of machinery to take the place of specialized workers, and in those cases where the division of labor has been carried furthest machinery now plays such a large part that it is impossible to decide what share of the productive results should be credited, historically, to each. One of the best ways to get an impression of the industrial results of the division of labor is to compare the work of a hand shoemaker, which may still be observed in many parts of the United States, with that performed in a well-organized shoe factory. According to an investigation made by the United States Bureau of Labor, the number of distinct processes into which the manufacture of men's brogan shoes is now divided is eighty-four. Many of these are performed by automatic machines. It is calculated that the McKay machine for attaching the soles of shoes to the uppers turns out in one hour and thirty-eight minutes one hundred pairs, which it would take ninety-eight hours to sew, and twenty-five hours even to peg, by hand. From 1855 to 1895 the efficiency of labor is said to have been multiplied fivefold in the shoe industry in the United States through the introduction of a division of labor and of improved machinery.

In Adam Smith's day the best illustration of the division

of labor that came under his observation was that used in the manufacture of pins. He showed that through the division of labor the average product of pins to each hand employed in a pin factory was 5000 per day and contrasted this with the one crude pin a day which a single artisan might perhaps turn out if he had to do the whole work by himself. At present pins are manufactured by automatic machinery and 1,200,000 per workman per day is said to be the output of a well-equipped factory. The progress in screw making is even more remarkable. According to estimates made by the Bureau of Labor 10,000 screws are now made by an expenditure of 16.7 minutes of human labor in comparison with 1250 hours formerly required to produce the same number.

Similar examples of progress due partly to the division of labor and partly to the introduction of labor-saving machinery might be multiplied for every branch of manufacturing. The subject has been exhaustively treated in a special report issued by the Bureau of Labor * and this may be consulted for other striking illustrations of improvement. On the whole it is not too much to say that the efficiency of labor in manufacturing has been increased many hundredfold by the abandonment of isolated production and hand processes in favor of the division of labor and machinery. In other branches of production progress has been less remarkable for the simple reason that they are less well adapted to these improvements.

Business Organization.

§ 90. Business organization has been carried to such a point in modern communities that few persons now produce for themselves the things that they require. Even in country districts the typical farmer is no longer the pioneer raising food and materials for his family, but the producer for the market who looks to the market for most of the things that he needs. We have called this development "progress in coöperation," but it is evident that the resulting coöperation is not deliberately planned by those who participate in it. It arises spontaneously as each one follows his own interest without thought of his neighbor. As a country district emerges from the pioneer stage, different men discover that it pays them better to be specialists and to produce for the market than to produce

* Report of 1898 on Hand and Machine Labor.

for themselves. Thus a simple division of labor is introduced to supplement the simple coöperation that prevails even among animals. The complex division of labor follows in due course because of its superior effectiveness, and in this way, as time goes on, coöperative production displaces isolated and individual production.*

The Enterpriser.

The success of industrial coöperation depends in large measure upon the ability of business managers or *enterprisers*. These are the men who act as directors of industrial undertakings. They decide what shall be produced and how it shall be produced. They hire workmen and determine what they shall do. They borrow money and convert it into particular forms of capital goods or exchange it for land. Finally, they assume the risks of the businesses in which they are engaged, undertaking to pay wages, interest and rent whether or not the results are satisfactory.

The qualities needed by an enterpriser are not unlike those required by a military leader. He must have energy and enterprise. He must be a good judge of men and of conditions. He must have confidence in himself and be able to inspire confidence and a feeling of loyalty in others. Above all he must have organizing ability, that is, the faculty of combining men and things in the most effective way for the realization of a desired result. A community that is well supplied with leaders having these qualities is sure to have its industrial forces turned to good account. Its workmen will be assigned the special tasks for which they are best fitted so far as conditions permit, and its capital will take the form of the capital goods that are found to be most efficient. Invention and discovery will be highly appreciated and progress in the technique of production will be rapid. Even a few capable enterprisers may secure these important results for a community. They serve the public not only by organizing efficiently the special branches of industry which they direct, but by setting standards which less able men are

* To distinguish this spontaneous or competitive coöperation from the copartnership of workmen in the management of industrial enterprises, to which the term "coöperation" is frequently applied, the latter is referred to in this book as "labor copartnership."

only too glad to copy. Thus it is not uncommon in the United States to find whole towns which are literally " run " by one or two men. The same men acting in combination are coming more and more to control the important industries of the country, and this gives them an influence for good or evil that can scarcely be exaggerated. The greater the power of these directors of the community's industries, the greater the importance that must be ascribed to personal qualities in determining the direction of industrial development. This importance of personality as a factor in modern business was strikingly illustrated in the spring of 1900 when several English investors took out insurance policies on the life of America's leading financier, to protect themselves in case his death should intervene to prevent the consummation of certain gigantic financial projects of which he was the originator and guiding spirit.

Forms of Business Organization: The Single Enterpriser.

§ 91. The simplest form of business organization is that in which a *single enterpriser* controls the whole undertaking. He may do everything for himself and use only his own capital, as do usually doctors, lawyers, cobblers, etc., or he may employ hired workmen and borrowed capital. In the United States many businesses employing thousands of men and using millions of capital have grown up under the responsible management of single individuals. The advantages of such a one-man organization are obvious. Its disadvantages are that one man, however able, cannot be equally competent to direct all departments of a large and complex business and that the capital that one man can command is small in comparison with that which may be secured by a number of men associated together.

The Partnership.

These disadvantages are to some extent overcome in a second form of business organization, the *partnership.* A partnership is an association of two or more individuals who are jointly and severally responsible for the management of the enterprise in which they are embarked. On forming a partnership the partners become individually liable for all of the obligations of the firm and agree that any contract entered into by either partner in the firm's name shall be binding on all. This form of organization is well fitted for businesses calling

for a diversity of talents and requiring no more capital than a small number of men may command. Until the last fifty years it was the common form of organization for businesses that had outgrown individual control. Recently it has given way quite largely to the *corporation,* the third important form of business organization.

The Corporation.

A corporation is an association of individuals known as stockholders who are empowered by legal charter to elect a board of directors and through it to act as one person in the conduct of the specified business. Corporations enjoy, usually, perpetual life. They may sue or be sued, incur debts, enter into contracts—in short, do everything necessary to the conduct of business, within the limits prescribed by their charters of incorporation, as though they were individuals. The liability of the stockholders in corporations is limited usually in the United States to the capital actually paid in or pledged in return for stock. Sometimes, as in the case of the national banks, stockholders are further liable for a sum equal to the par value of the stock they own, but this liability is never unlimited as is that of legally constituted partners.*

Advantages of Corporations.

§ 92. Some of the advantages of the corporation for business purposes are: (1) It continues even though its promoters die or retire from business. (2) It draws its capital in large or small quantities from widely different sources and may command any amount, however great, for an enterprise in which investors have confidence. (3) It may profit by the intermittent attention of directors whose ability and experience make their services of the greatest value, but who could not be induced to assume the risks incidental to partnerships. (4) It is flexible, permitting a complete change of management whenever the stockholders deem this expedient, through the simple process of an election at an annual meeting.

Their Disadvantages.

These considerations and others of less importance have caused the corporate form of organization to be adopted for a great variety of enterprises. It is probably within the truth

* Limited-liability partnerships are not included in the above description because they have become an unusual type. In the United States each state and territory exercises the privilege of incorporating companies and prescribing the regulations with which they must comply. The description given applies to the ordinary business corporation.

to say that one-half of the business of the United States is now controlled by corporations and there is every indication that the proportion is increasing. This makes important the recognition of certain drawbacks attaching to the corporate form of organization. Chief among these is the fact that responsibility for the management of corporations is diffused. In one-man businesses and partnerships the men who organize and manage the enterprise are the ones most vitally interested in its success. In corporations the stockholders, who usually furnish the capital required and have to bear the loss if things go wrong, intrust their interests to the board of directors. The board of directors in turn deputes the actual management of the business to a salaried president or manager who may not, and often does not, have any further interest in the business than that his reputation depends upon the honesty and wisdom with which he manages it. The enterpriser function is thus divided in the corporation between three parties no one of whom has the same vital interest in the business that the single enterpriser or partner feels in businesses conducted on the other plans. Moreover, few directors or managers have not, at times, private interests in conflict with the corporate interests they are supposed to promote. This diffusion of responsibility and of interest causes corporate management to be often wasteful and sometimes corrupt. The salaries paid are frequently higher than they need be to secure the required grade of labor, appointments are often determined by personal rather than by business considerations, and inflated prices are sometimes paid for materials in consequence of the fact that particular directors are interested in their production. More common than these clear violations of trust are misrepresentations in regard to the affairs of the corporation intended to influence the stock market and to enable those interested to carry through deals for their own benefit.

Diffused Responsibility.

Abuse of Borrowing Power.

Another abuse is connected with the borrowing power of corporations. When this power is used to secure money by means of a sale of bonds the law gives to bondholders no voice in the management of the corporation so long as their interest is paid and the principal is not defaulted. The larger the proportion of the capital required for any enterprise that is

secured through the sale of bonds, the smaller is the interest in the business of the stockholders, who nevertheless continue to control it. It has often happened in connection with railway corporations in the United States that the entire capital has been secured by selling bonds and that the stock has represented simply a bonus paid to the promoters of the company. This is a situation fraught with danger, as American experience has abundantly proved. To give a fictitious value to their stock, promoters are only too apt to pay dividends out of earnings that should be expended for renewals and replacements. Before the corporation is reduced to bankruptcy they can usually sell their holdings to unsuspecting investors and retire, leaving to them the task of reorganizing the business.

Political Corruption.

A third set of evils has reference to the general or public interest in corporations. Individuals in their pursuit of gain are controlled by the moral standards of their business associates. Corporations have no moral standards. Their directors have shown themselves willing to wink at practices on the part of the officials they appoint to which they would not themselves stoop. Corporate officials, moreover, do not hesitate to do things in the name and under cover of their corporations which they would be ashamed to perform openly for themselves. In the United States corporations have been guilty of buying legislatures, corrupting judges, bribing juries, entering into agreements with political parties insuring them certain privileges in return for campaign contributions, and in fact of every sin in the political calendar.

It is owing largely to them that the tone not only of business but of political morality is so much below the standards of private life. This third group of evils is at the basis of the "corporation problem." As this is a phase of the more important "trust problem" its fuller discussion is postponed to Chapter XXV.

Dependence of Corporations for Success on Single Individuals.

The stockholders of corporations might from what has been said be expected to manifest an active interest in their management, and this is true of large stockholders who are likely to be at the same time directors. Small stockholders, however, are very often surprisingly indifferent so long as dividends

are regularly paid and nothing occurs to excite their suspicion that the business is being improperly managed. When a corporate enterprise is first launched its stock is likely to be taken in large blocks by the men most interested in it and most sanguine of its success. Some shares may go to the general public, but usually a controlling interest is retained by the men who have most to lose if the business fails. During the first year or two the stockholders and the active directors are thus apt to be identical or so nearly so that risk and responsibility go together. Among the directors there is likely to be a guiding spirit who performs all the essential functions of the enterpriser except that others share with him the risks of the undertaking and the minor details of management. After a corporation is firmly established on a paying basis the same conditions may and often do continue, but it is quite as likely that the organizers will gradually dispose of their stock to investors so that they may have their capital free for the promotion of other enterprises. When this occurs the stock is gradually diffused throughout the community until the largest holdings represent far from a majority of the outstanding shares and the control of the corporation has virtually passed out of the hands of the few into the hands of the many.* Under these conditions the control of the business depends not on the actual investment of capital in it, but on control over the votes of widely scattered and uninformed stockholders. The situation is still favorable to the ascendency of some one man of great organizing ability and much depends upon the moral qualities that such a man brings to his position. If he is self-seeking and unscrupulous he may pack the board of directors with followers of the same stamp and deliberately wreck the enterprise for his own aggrandizement. If, on the other hand, he is honestly anxious to promote the interests of the company, and brings ability to his task, he will put in as directors the best men he can secure and build up an organization whose efficiency will compare favorably with that of businesses owned and controlled by single enter-

* The majority of the stockholders in some of the best known American corporations, for example, the Pennsylvania Railroad, are now women.

prisers or partners. At each stage in corporate development the tendency thus appears to be toward control by one man or a small group of men, however widely the stock may be distributed. Successful corporations are as much one-man or few-men enterprises, as regards their actual management, as firms composed of partners. The chief difference is that corporate enterprisers incur but a small part of the actual risk of loss that partners incur and must be held to the efficient performance of their duties, if at all, by higher standards of honesty and faithfulness to trust than are demanded in the simpler form of organization. Notwithstanding the many abuses connected with corporate finance in the United States the rapid extension of the corporate form of organization is convincing proof of parallel progress in business morality. If directors of corporations were not as a rule honest and upright men, few large corporations would be formed, for the simple reason that few people would be willing to invest their savings in such hazardous enterprises.

Large *v.* Small Scale Production.

§ 93. Different branches of production vary greatly as regards the size of the business unit which is best adapted to them. In farming in the United States the small farm of from twenty to two hundred acres seems to be displacing the larger farm of five hundred acres and upwards. In manufacturing and transportation, on the contrary, large-scale production is becoming more and more the rule. The principal merit of small-scale production is the undivided attention which it permits the enterpriser to give to all of the details of the business. This is particularly important in farming and in artistic and professional work, where continuous attention to matters of detail is the chief requisite to success. It is less important in manufacturing and transportation because the operations required in these businesses can be reduced to routine and an efficient check on the work of employees can be maintained by occasional attention to what they are doing. In these industries a great variety of contrivances which compel men to register the results of their work as they perform it have been invented, and these act as mechanical substitutes for "the master's eye." Also where automatic machinery is used, the pace is set for all operatives and they have to fall

in with it or incur the risk of being discharged for incompetence. Then, the system of paying wages in proportion to the amount produced either through the *piece-wage system* or some form of the *premium or bonus plan,* makes the interest of the employee as great as that of the employer in the efficiency of his work. Finally, so-called "scientific management," the system by which specialists study the different tasks to be performed, decide how and by what class of workers they can be most efficiently done, and assist in selecting the right individuals for them and directing them how to work, goes far to make directed employees as efficient as men working for themselves.

Advantages of Large-Scale Production:

Large-scale producers enjoy besides important positive advantages: (1) As was pointed out in connection with the discussion of partnerships and corporations, they can command a variety of different talents and place them in those departments for which they are best fitted. This is another way of saying that they are able to apply the division of labor even to the executive branch of the business and to reap all of the advantages that result from it. For a simple business such as farming, which, because of its periodic character, offers continuous employment to no specialists, this consideration is of slight moment. For manufacturing and transporting industries, however, which have several departments going all at the same time, it is very important.

Division of Labor.

Equipment of Capital Better Employed.

(2) Large-scale production permits the economical utilization of expensive machinery and equipment which the small-scale producer cannot afford, or which it would not pay him to have because his small business would not keep it continuously employed. Farmers surmount this difficulty in a measure by owning expensive machines jointly and sending them round from one farm to another as they are required. Manufacturers can hardly do this because their machinery is for the most part stationary. At best it is a poor substitute for undivided ownership and control, as all farmers who have tried it testify.

The above consideration applies with special force to the transporting industries. Canal and railroad companies require costly excavations and roadbeds. In these a large part

of their capital is invested, and interest on this capital and outlays connected with the maintenance of way constitute a large element in their expenses. The amount of traffic that may pass through a canal or over a railroad is limited only by the frequency with which boats or cars may safely be sent after one another. Moreover temperature changes, storms, etc., determine the expense of keeping the system in repair even more than the volume of business done. It results from these facts that the expense—as regards capital account—per passenger or per ton of freight carried diminishes steadily as the volume of business grows. The original cost and the outlay for maintenance of way appear as fixed charges and the larger the business done the smaller is the expense per unit as regards these items. If the running expenses per unit are fairly constant, as they are apt to be for a well-managed canal or railroad, the large-scale transportation company has here a marked advantage over its smaller competitor and an advantage which grows as the business grows until the traffic has become so large that it cannot be handled without numerous accidents. In the light of these two advantages concentration in the transporting industries and in many branches of manufacturing seems a perfectly natural and economically desirable tendency.

Especially in Transporting Industries.

(3) A third advantage of the large-scale producer is in connection with the purchase of materials and the sale of products. Sellers of materials are willing often to make concessions to large buyers, and in marketing products the large seller may arrange his advertising more economically than his small competitor.

Economy in Buying Supplies.

(4) Large-scale producers can make a better use of by-products. In the mineral oil and the meat-packing industries large-scale production has made possible the utilization of waste products to an extent undreamed of when these businesses were carried on by small firms, and to the advantage of the whole community.

Saving Through By-products.

(5) A fifth advantage is found in the large expenditures which a large-scale producer is able to make on experiments looking to the improvement of the technique of production. In businesses which are changing their methods continuously,

Can Spend More on Experiments.

to be the first to introduce a valuable innovation means often the difference between success and failure. Many of the manufacturing establishments which have been most successful in the United States in recent years, such as the Carnegie Steel Company of Pittsburg, have owed their success in no small degree to their lavish expenditures on industrial experiments and for the installation of new machinery as soon as its superiority to that in use has been demonstrated.

Classification of Business.

Large-scale production, it must be clearly understood, is by no means synonymous with monopoly, or exclusive control, of a given branch of production. Nevertheless, in those cases in which the advantages of large-scale production persist, no matter how large the producing unit becomes, monopoly is the goal toward which the business is developing and which it will ultimately attain. This suggests a threefold classification of industrial enterprises: (1) businesses in which the small-scale producer has the advantage, as in farming in the United States; (2) businesses in which large-scale production is more economical up to a certain point, beyond which the loss in efficiency resulting from the absence of the direct and personal supervision of the enterpriser more than offsets the gains from further concentration; (3) monopolies.

The Representative Firm.

§ 94. As special chapters are devoted to monopolies it will not be advisable to discuss them further at this point. Although numerous and perhaps multiplying in the United States, monopolies as yet dominate but a small part of the vast field of production. Farming, most branches of mining, lumbering, fishing, manufacturing, trade, banking and many branches of the transporting industries are still controlled more or less completely by competition. In each of these industries at any given time there is a certain size of business plant which under average management is most conducive to economical production. This may be designated as *the representative firm.* As methods of production change, the size of the representative firm of course changes also, but such changes are gradual and may without serious error be overlooked in connection with the consideration of the broader problems of economics.

The representative firms in each branch of business may,

as Professor Marshall has suggested, be compared to the full-grown trees of a primeval forest. Around them and competing with them for customers are overgrown firms that are falling into decay and new firms that are gradually making a place for themselves, just as in the primeval forest overgrown and decaying trees and aspiring young saplings struggle with their full-grown brothers for a share of earth and sunlight. And just as the trees of full growth are the dominant feature in a primeval forest, so representative firms dominate in business.

In the next chapter we pass from production to distribution. Both parts of economics deal with the same phenomena, that is, with wealth creation through the application of labor aided by capital to land, but while in production the creation is the important thing, in distribution the motives which control men and the relation of the parts which different factors play in this creation are important because upon them depends the division, or sharing, of the wealth created.

REFERENCES FOR COLLATERAL READING

***Seligman,* Principles of Economics, Chaps. XIX. and XXII.; ***Bullock,* Selected Readings in Economics, Chap. X.; ***Marshall,* Principles of Economics, Book IV., Chaps. VIII.-XIII.; *Nicholson,* Principles of Political Economy, Book I., Chaps. VII.-X.; *** Taussig,* Principles of Economics, Chap. III.**

CHAPTER XI

PRODUCTION AND DISTRIBUTION

Relation Between Production and Distribution.

§ 95. In the preceding chapters the products of industry have been referred to sometimes as commodities and services, sometimes as economic goods and sometimes as valuable utilities. It is these same commodities and services, goods or utilities, that are the objects of distribution. If the identical goods produced were directly and immediately divided among those who take part in their production, the matter would be comparatively simple. But such production " on shares " belongs to a primitive stage of industrial development. Under modern conditions goods are nearly always produced for sale, and it is the money or purchasing power received for them, rather than the goods themselves, that is the first concern of distribution. Consider, for example, the case of some typical business establishment, like a shoe factory. The manager of such an enterprise would never think of compensating his employees or others who have claims upon him with pairs of shoes, the products of his business. Instead, he sells his shoes as they are produced for the best prices obtainable, and the money or purchasing power he receives for them is what he really divides, either actually or in anticipation of its receipt, among those who have claims upon the product.

Definition of Net Product.

In determining what the product has been, and, therefore, what is the money return to be divided, it must be remembered that not all the new commodities and services produced during a year are to be credited to the year's industry. In connection with every branch of production there is a destruction of commodities and services for which full allowance must be made in the gross product before the *net* product, or what has really been added to the wealth of the world, can be calculated. The farmer uses up seed, fertilizers, tools and farm buildings. The manufacturer destroys raw materials, fuel,

machinery and factories. Even the banker and professional man use up stationery and office furniture. These losses and wastes, which are a necessary part of all production, must be met by the deduction from the gross returns of the year's business of what we may call the *replacement fund.* Through this fund raw materials and partially finished products, destroyed or altered in form, are replaced; buildings, machines, tools and other things subject to wear and tear are repaired and renewed; and, finally, provision is made for substituting for worn-out machines and other equipment, new capital goods of at least equal efficiency. The deduction to be made from the gross product for the replacement fund is calculated as a sum of money or purchasing power. In our shoe factory, for example, the capital goods used up in the process of production cannot be replaced literally out of the product. It is not shoes that are needed, but leather, tools, repairs on buildings and machinery, etc. The expense of making these replacements and repairs is calculated in money and deducted from the gross money return from the year's business. The net money return which is left, and which we shall designate in future as the *money income,* is the first object of the distributive process. **Of Money Income.**

But if money or purchasing power is the first thing distributed, it is merely as a means to an end. Those who take part in production desire primarily not money, but want-gratifying goods. To determine what is really distributed, we must inquire what is bought with the money income, for this is the *real income.** Thus a complete account of distribu- **Of Real Income.**

* There has been a good deal of discussion among economists recently as to what constitutes the *real income.* In strictness it should be defined as consisting of the *flow of gratifications enjoyed by the individual or group of individuals under consideration in the given income period.* It is to secure these gratifications that money income is given up. These and these only are income in the ultimate sense of the word. The difficulty is that flows of gratifications are not as a rule purchasable. Exception from this statement must be made of personal services and of durable consumption goods that may be leased, but this merely emphasizes the fact that ordinarily it is the *sources* from which gratifications flow, that is, commodities, not the gratifications themselves, for which money income is exchanged. For this reason, it is more convenient to define *real income* as consisting of the services and commodities for which money income is expended; services in the case of

tion must follow the money income, the price received for the products of industry less the necessary deduction for the replacement fund, until it is reconverted into the products of industry and the circle of production, exchange and distribution is closed.

Distribution from Viewpoint of Enterpriser.

§ 96. As business is now organized, the leading rôle is played by the enterpriser. From his point of view all the shares in distribution, except his own profit, are expenses of production. As preliminary to a more complete analysis, it will be well to consider the process of distribution as it appears to a business man in some typical enterprise, like our shoe factory.

From the viewpoint of motive, the first claim that must be considered is that of the enterpriser himself. He is in business for profit and unless at the end of the year some return remains over to compensate him for his own time and trouble he will be dissatisfied and may withdraw to some other occupation. If we call the minimum profit necessary to induce him to continue to serve industrial society in his enterpriser capacity his *wages-of-management,* we may say that from the enterpriser's own standpoint this is the most important of the shares into which the annual money income must regularly be divided. In addition to the wages-of-management to

Definition of Wages-of-Management.

personal services and commodities, such as houses, pianos, etc., that are merely leased; commodities when the purchase is outright. This procedure is free from logical objection so long as it is clearly recognized that the exchange of money income for commodities which will continue to afford gratifications for longer than the unit income period, is partly an expenditure and partly an investment. For, as explained in Section 100, to logical analysis durable consumption goods have all of the essential characteristics of capital, and the money income that is exchanged for them is to some extent saved and invested rather than spent. Here as elsewhere in this treatise the effort has been to follow so far as logical consistency permits the usages of the business community. Business men habitually think of the year's money income as consisting of the net money return from the year's business, and of the real income for the year as consisting of the services and commodities for which this money income is exchanged. When the commodities purchased are sources of future as well as present gratifications, or are securities like stocks and bonds, that afford only future gratifications, they think of the transaction as a saving and investment of income. It is in these senses that we shall understand the terms money income and real income.

which he is entitled, the enterpriser, who is the risk-bearer as well as the manager of the enterprise, may receive an additional profit or incur a loss. This irregular supplementary profit (or loss) is discussed in the next two chapters.

The wages-of-management of the enterpriser is prospective. Normally it must remain after the other shares have been paid out of the money income, but these other shares must be paid first. In a shoe factory, or any other typical business, these other shares—all of them expenses of production in addition to the replacement fund which must be provided for as a matter of course,—are: (1) rent for the use of land and natural powers; (2) wages to workers of different grades; (3) interest for the use of capital; (4) taxes. **The Other Shares:**

The rent of land or natural power was spoken of in Chapter VIII. as a profit over and above the expenses of production. To the farmer cultivating his own land it is an item of return rather than an outlay; but to the enterpriser using leased land it is an expense. We designate rent here, without any qualification, as an expense, because even for the enterpriser using his own land it is virtually an outlay since by using the land he loses what he might have obtained had he leased it to another. **Rent.**

The propriety of naming wages as one of the items of expense is obvious. As the term is here used it includes all payments for labor, whether wages in the ordinary sense or salaries. **Wages.**

The item of interest for the use of capital is calculated at a certain rate per cent per annum for the capital employed. Thus if a business ties up on the average throughout the year capital goods worth $10,000 and the current rate of interest is five per cent, $500 should be charged as expense for interest. This item should appear, if, in the shoe factory considered, capital belonging to the enterpriser himself rather than borrowed capital were used. When borrowed capital is used, the expense for interest is an actual outlay; when the enterpriser's own capital, it is a virtual outlay, since using the capital in the business prevents loaning it at the current rate to some other enterpriser. **Interest.**

Taxes are an irregular charge from which many producers **Taxes.**

are exempt. Their amount depends on the arbitrary decision of the taxing power, and for this reason as well as because they do not affect at all many branches of production we may leave them out of account in our further treatment of distribution.

Business Man's Explanation of These Shares.

§ 97. A wages-of-management for himself, rent, wages and interest—these are the shares of income, as every business man will agree, which are the chief concerns of the distributive process. Nor does the explanation of these shares appear to the business man, who looks at the problem from the point of view of his own particular enterprise, specially difficult. The shoe manufacturer commands a wages-of-management because with the tried business capacity he must ordinarily have to attain to such a responsible position, there are numerous other employments open to him in which, either as enterpriser or hired-employee, his services would command compensation. The maximum return of which he has reasonable assurance in some other employment to which he can readily turn and which is equally easy and congenial, is the minimum that he will be willing to accept for any length of time and continue a shoe manufacturer. This is his wages-of-management. In normal times his profits must equal at least this sum or he will cease to serve society in this capacity.

As the wages-of-management is explained by the individual business man by reference to alternative business opportunities that are open to him, so rent, wages and interest are explained by the many different uses to which pieces of land, workers and capital goods may be put and the active competition that exists among enterprisers to command the services of these limited means of production. The individual enterpriser pays wages at current rates, for example, because without workers he cannot carry on his business and to get and hold his labor force he must pay them at least as much as other enterprisers are willing to pay. The same considerations lead him to pay a certain rental for the land and a certain rate of interest for the capital he requires. The explanation thus involves two elements—the necessity the enterpriser is under of controlling these factors if he is going to continue his business and the active competition for them on the part of other enterprisers

engaged in other lines of business, which is due in turn to the fact that the supplies of these factors are all limited in comparison with the uses to which they may advantageously be put.

Why Economist Must Go Further.

Although true and valid so far as it goes, this explanation is logically inadequate because it refers the wages-of-management, rent, wages and interest paid in one employment to the same shares paid in others. It suffices for the business man because it tells him everything that it is necessary for him to know to conduct intelligently his particular business. It does not suffice for the economist because he must explain how these payments are possible and why they are made, not in this particular business or in that, but in all businesses taken together. Before we grapple with this broader problem we may simplify our task somewhat by combining the item *wages-of-management* with the item *wages,* since to both the same line of explanation must apply.

Explanation of Wages-of-Management.

§ 98. As business is now organized in progressive countries there is a demand for hired workers possessing every variety of ability. From the fifty cents a day paid to wage-earners in certain occupations in the United States to the $50,000 or more a year paid to the heads of various banking, insurance, railway and industrial corporations is a long step; but these and all intermediate earnings of hired workers are to economic analysis simply wages paid for services rendered. Nearly, if not quite, as comprehensive as the wages scale is the scale of the enterprisers' earnings or wages-of-management. All but the very lowest groups of hired workers have among them individuals who may, if they choose, set up in business for themselves. Even sweat-shop employees have as an alternative occupation peddling, in which they assume the risks of loss. Agricultural workers may become homesteaders or may rent small plots of land to cultivate at their own risk. Similar but more numerous alternatives are open to the higher groups up to the highly paid managers of large corporate enterprises, any one of whom could, with his superior executive ability, direct successfully any one of a number of different businesses.

When a man who is or might be earning a certain wage or salary as an employee, chooses instead to figure as an inde-

pendent enterpriser, it is reasonable to assume that he expects to better his condition. He may make the change because he loves independence or because the new occupation is more congenial, but he is not apt to make it unless he expects also to realize the same or higher earnings than in the other position open to him. The wage or salary that might be obtained is thus a minimum profit or wages-of-management that must be paid to the enterpriser in order to secure his services in connection with his enterpriser function. At any given time the members of any group of workers may be distinguished into three types: (1) those who do well as employees, but have not the enterprise to set up in business for themselves, (2) those who are planning to become enterprisers and are only waiting for favorable opportunities to begin, (3) those who have been enterprisers, but have been compelled through failure to return to the ranks of hired workers. Individuals of the first type exert little influence on the earnings of their group. They accept what industrial conditions enable them to get. Those of the second and third types, on the other hand, are important factors in determining the amount of these earnings. The former are constantly studying other industrial opportunities and through their readiness to abandon the positions which they have in order to launch out as enterprisers, the rate of wages for their group is prevented from falling below the earnings of enterprisers of the same grade. More important for our present purpose is the conduct of persons of the third type, who have resumed their posts as wage-earners because their earnings as enterprisers have ceased to equal even the wages that they can obtain in such positions. Their ready return to the ranks of employees prevents enterprisers' earnings from falling, except for brief periods, below the wage level.

Included in Explanation of Wages.

In this explanation of the reasons that connect the wages-of-management with wages generally, we have seemed to ignore the fact that the alternative open to the enterpriser, which fixes the standard of his earning capacity, may be the chance of becoming an enterpriser in some other line of business. This possibility ought in strictness to be taken into account, but in practice the corporate form of business organi-

zation has now become so universal that it would rarely happen that comparison with what men of equal capacity are earning as hired employees was not the basis for determining the wages-of-management. Such earnings, it must be constantly borne in mind, are not necessarily small. "Bare wages-of-management" may mean anything from the one dollar a day or less of the itinerant peddler to the $50,000 a year or more of the highly successful business man. The point to be emphasized is that the same explanation that accounts for wages or salaries accounts also for the wages-of-management currently received by enterprisers of the same grade of capacity.

Distribution Concerned with Money Income.

§ 99. As already stated, it is not the combined net product of all of the industries of the country, but the price of that product, or the money income, that is the first thing to be distributed. The difficulties which result from this fact come from two directions and it will be well to discuss them at this point even though we cannot entirely remove them until later.

Increasing Net Product Normally Increases Money Income.

If distribution were concerned directly with the net product a demonstration that with the aid of more land, or more workmen, or more capital goods more could be produced would be proof that a larger fund would be available to distribute and would suggest the idea that the additional product should be credited as rent, or wages, or interest to the factor which caused it to be created. But since distribution is concerned with the price of the net product, it no longer follows of necessity that a larger net product will mean a larger fund to distribute. Increasing the supply of any good, *other things remaining the same,* causes a fall in its price. If the increase is so great that the good becomes superabundant, its price will be reduced to nothing and it will be free. As regards any single branch of production, it is, therefore, clear that increasing the net product instead of adding to the resulting money income, may, if persisted in, wipe it out altogether. Can the same be true of an increase in the net product of the collective national industries? A little thought as to the reasons for the decline in the price of any single good as its supply increases will convince the reader that it cannot. Exchange values and prices are relations among goods. Increase the supply of one and the ratio at which it exchanges for other goods

or for money will change to its disadvantage. If, however, you increase at the same time the supplies of all goods, including gold, the standard money material, you affect simultaneously both sides of all ratios of exchange and consequently the ratios remain as before. Values in use, measured by marginal utilities may be lowered, that is, the community may have its wants for all kinds of goods more amply gratified. Values in exchange and prices will not be affected, since the increase in the net product is a general increase embracing all the different products of the collective national industries. This conclusion may be accepted the more confidently, since for obvious reasons the tendency of competition is always to direct the factors of production into those industries in which prices are rising or remaining constant and away from those in which they are falling, or, if conditions are such that prices generally show a downward trend, then into gold mining until the increased supplies of the standard money material restore the balance. Proof that additional land, or additional workmen, or additional capital goods will add to the composite net product, that is, the net product in all the different branches of production, is, therefore, presumptive proof that the money income will be correspondingly larger and justifies the attempt to trace a connection between the addition to the fund to be distributed and the share assigned to the factor in production which has caused it. The truth of this conclusion will become more evident after the theory of money (Chapters XIX.-XXI.) has been mastered.

Relation Between Money Income, Real Income and Net Product.

§ 100. The second difficulty is to trace the connection between the real income for which the money income is exchanged and the net product. That the two are closely related goes without saying. What men eat, drink and wear, the houses they live in, the books they read and all the commodities and services which gratify their wants are the products of industry. If it could be shown that the net product of any given period and the real incomes of those who receive shares of the money income during that period tend to be interchangeable, a long step would be taken toward an understanding of economic relations.

The first circumstance that seems to stand in the way of

such a conclusion is the fact that an important item for which money incomes are regularly expended is the rent of houses and other durable consumption goods. For house-rent alone, as we have seen (Section 49), wage-earners regularly spend from one-tenth to one-sixth of their incomes. These durable consumption goods are certainly not as a rule the products of current industry. Many of them were produced years, even decades, earlier. How reconcile this fact with the view that the real income and the net product of any period tend to be interchangeable? A first step toward such a reconciliation is to recognize that there is no logical basis for the distinction which business men usually draw between durable consumption goods, like houses, and capital goods. Houses produce valuable utilities as well as warehouses, if not in exactly the same way. So do automobiles, steam yachts, furniture, clothes and the many other things in this class. The uses which they give off in a year are properly included among the products of that year. Making an adequate appropriation from the price received for these uses for a replacement fund, we get a net item that should clearly be included in the total money income of the year. In paying out money for house-rent, therefore, the tenant is exchanging money income for a product which is properly credited to the same period which gives rise to the income.

Services of Consumers' Goods Part of Real Income.

Including durable consumption goods in our conception of capital goods merely transfers the difficulty of tracing a relation between the real income of a period and the net product of that period to the broader arena of capitalistic production. This, as already explained, differs from direct production principally in the longer interval that must elapse between its inception and its completion. As now organized production is a prolonged, serial process. Thus the bread that appears on the table to-day was made from flour produced weeks or months ago. This flour was itself made from wheat grown perhaps a year before. Finally the seed from which this wheat sprang was planted months earlier. And what is true of bread is more or less true of every commodity that enters into consumption. Only services which must be enjoyed, if at all, as they are rendered, are consumed as they are pro-

duced. It is possible only to guess at the proportion of the valuable utilities embodied in the commodities and services consumed in an average month which were produced during that month, but it is safe to say that not more than one-tenth are in this class. Quite nine-tenths are the products of the industry of previous months, carried along to the present month as a part of the community's capital. Since not more than one-tenth of the utilities currently consumed are products of current industry, most of the world's workers must be engaged at any given time upon commodities that will not be ready for consumption until some future period. That this is the case is at once obvious from a consideration of the limited number of occupations concerned with the rendering of services and with applying the final touches to the commodities that enter into every-day consumption. Retail dealers, deliverers, cooks, bakers, etc., constitute but a fraction of the industrial population of any modern community.

Real Incomes Drawn from Capital Rather than Directly from Net Product.

Opposed to the fact that fully nine-tenths of the products of current industry are not in consumable form is the equally certain fact that practically the entire money income is spent for goods that are ready for consumption. Of course, some income is saved and invested, but the great bulk of it, whether received by wage-earners, employers or capitalists, is spent, and spending means purchasing finished goods immediately available for the gratification of wants. Thinking of the month again as the productive period, the money returns which enterprisers receive in exchange for products, fully nine-tenths of which are not yet in consumable form, are divided between the replacement fund and the money income to which they and others are entitled. As regards the part of this money income that constitutes wages, no one will question that nearly all of it is habitually exchanged for consumable goods. Some portion of the money income going to the other sharers in distribution may be saved, but the greater part of it also will be exchanged for consumable goods. We are thus seemingly brought to the conclusion that it is not, speaking broadly, the products of their own industry that are shared among those who take part in production, but the products of past industry. If we think of the products of

industry as pouring into a reservoir, we must think of real income as being drawn out of the reservoir on the other side, and as consisting for the most part in any day, week or month of different goods from those which during that day, week or month have been produced. Since the contents of the reservoir is a part of the community's accumulated fund of capital, we may formulate our conclusion in the proposition that real incomes, the commodities and services for which money incomes are exchanged, come for the most part out of capital, rather than out of the current product.

Confusion Caused by Constant Changes.

§ 101. Although the combined net product of all of the industries of a country is clearly not *identical* with the real income to which through the agency of the money income it gives rise, there is the strongest presumption that the two are interchangeable. Real income is withdrawn in the form of finished commodities and services at the end of the productive process; the net product must be the source from which these finished goods are replaced in preparation for the next distribution. For, unless the net product did normally replace the real income withdrawn, production and distribution would not proceed with the order and regularity which may be observed on every hand. Dealers' stocks of goods would be depleted but they would not be renewed. Manufacturers' shipping departments would be emptied to meet current orders but they would not be filled again. The barest acquaintance with the orderly way in which modern business is carried on proves that these things do not usually occur. In fact manufacturing and selling are even more regular and continuous than the assumption of a one-month production period would imply. Normally production is not carried on for a month or longer period before the produce is sold and the money received for it distributed. Products are sold every day just as they are produced every day, and much thought is given by every successful business man to the problem of carrying just the surplus stocks that will meet possible extraordinary demands, but no larger stocks. New finished products flow into the shipping department of a well-organized business as regularly every day as they flow out of it in sales. At other points throughout the plant as partly or completely

finished products are advanced a stage, materials or less completely finished products are sent forward from the preceding stage in a steady stream. Everywhere, if the business is running smoothly, there is continuous replacement and renewal.

But in actual industrial society business does not always run smoothly. Crises and depressions occur. Strikes and lockouts interrupt production. Crops ripen only at the harvest season and even then are uncertain. Old mines become exhausted and have to be abandoned, while new mines are constantly being discovered. These and other irregularities are so much in evidence that there is danger of being unduly impressed by their importance and of failing to grasp the great underlying influences without which even the irregularities cannot be fully understood. To avoid this danger economists find it convenient to draw mental pictures of industrial society as it would be if disturbing factors were absent. We shall find it helpful to draw such a picture at this point, for with its aid the substantial interchangeability of the net product and the real income can be demonstrated and the important function which capital performs in bridging over the gulf between them made clear.

Assumption of State of Normal Equilibrium.

To simplify the task of understanding the complex relations of actual industrial society let the reader picture to his mind a society from which changes are so far as possible eliminated. Let him imagine that in this hypothetical society further improvements in productive processes are for the time being suspended; that nature continues to assist production without any variation from season to season; that each grade of labor is constantly renewed; that population as a whole remains stationary; that the fund of capital is neither increased nor decreased but kept intact at every point through exact and continuous renewal by means of the replacement fund; that the wants of consumers do not change; and, finally, that competition has perfectly free play. Under these circumstances production, distribution and consumption would go on very much as they do in actual society, except that in the absence of all change, each would be perfectly adjusted to the others. Men would, of course, continue to die or to retire from business but other men would inherit their tasks and perform

them in the same way and with the same efficiency as before. The birth rate would just balance the death rate. At every stage of production there would have to be an exact replacement from the previous stage of the capital goods destroyed. Thus, if the month were the unit production period, the month's destruction of tools, machines and other instruments of production must be just made good by the month's flow of finished capital goods from dealers to the different stages of production. The month's output of raw materials must just replace the worked-up materials which manufacturers pass on each month to traders. These in turn must just balance the month's transfers of goods from wholesale dealers to retailers, and the last must just offset the month's sales by retailers to their customers.

Net Product and Real Income Interchangeable.

Under these conditions the net product and the real income of consumable goods would of necessity be exactly equal in exchange value and the money income would exchange indifferently for either. This must be the case, because it is only on this condition that the exact replacement all along the line necessary to the illustration could occur. If we describe the situation resulting from the above assumptions as that of *normal equilibrium,* we may conclude that for an industrial society brought to the state of normal equilibrium, the net product and the real income would be not only substantially but exactly interchangeable.*

Correspondence to Actual State.

Of course, no one of the assumptions upon which the imagined society rests is fully realized in any actual society, and yet in essentials the picture drawn is also true of society as it is. The dominant characteristic of any industrial society looked at in its entirety is not change but permanency and stability of relations. Men drop out, but others inherit their tasks and perform them much as they did themselves. Population is not stationary, but it is so nearly so from year to year that the great majority of the children born each day virtually

* The term "normal" means in this connection merely the usual and predominant. From one point of view, progress is just as normal as, as it is even more significant than, stagnation. A clear understanding of industrial relations as they would be if society were not progressing is, however, a valuable aid to a proper appreciation of even progress itself.

take the places of persons who have just died. Goods are worn out and destroyed, but new goods are being produced in a continuous stream, so that the aggregate wealth of society changes little over short periods either as regards its amount or the kinds of goods of which it is composed. In the same way improvements in methods of production, if all processes are considered, follow each other but slowly. Moreover in every society no matter how rapidly it is progressing in population, wealth or the technique of production, economic forces are constantly working toward a state of normal equilibrium.

For these reasons the proposition that the net product and the real income are interchangeable applies with but slight modification to actual societies. In the United States to-day, for example, as in the hypothetical society, the greater part of the wealth withdrawn each month from dealers' stocks to constitute the real incomes of sharers in distribution is replaced in kind and quantity by the net product of the month's industry, in the same way that the water which flows through a mill-race from a pond kept at a certain level is replaced by the water which flows from the mill stream on the other side. As in the latter case we may say that the water which propels the mill wheel during any hour is virtually the water that flows into the mill pond, so we may say in the former that real incomes come virtually from the net products of industry.

Purpose of Assumption.

The assumption of a state of normal equilibrium is a convenient logical device for disentangling the regular and continuous influences which we have called normal and their effects from the less regular influences of change and progress and the complex situations to which they give rise. In this connection it helps to make clear the fact that, notwithstanding all of the complications of actual industrial relations, it is still true that the net product of industry from day to day and week to week tends to be substantially interchangeable with the real incomes for which the money incomes derived from this net product are expended.

Arithmetical Illustration.

§ 102. An arithmetical illustration may help the reader to see more clearly the relation between the net product and the real income. To give definiteness to the problem we will

assume that production, from its inception in the creation of the utilities embodied in raw materials until its completion in the withdrawal of finished goods from the stocks of dealers, extends over a period of three years: the first being devoted to extractive industries,* the second to manufacturing and the third to transportation and trade. Each year thus represents a particular stage in the cycle of production and in each stage, needless to say, the directing intelligence of enterprisers, land, labor and capital coöperate to bring about the productive result. To simplify the illustration as much as possible additional assumptions may be made. All of the commodities which are to constitute the real wages of the workers will be taken to be on hand in the stocks of dealers at the beginning of the year and thus to constitute a part of the capital on which interest must be earned. Similarly the completed products of each stage will be taken to be turned over all together at the end of the year to constitute the materials on which production in the next stage will be engaged during the entire year. The extent to which these last assumptions are at variance with the actual facts of industrial society will be considered later. Since the actual prices received for the products of each year do not concern us in this connection we shall assume that competition causes all prices to correspond exactly with the expenses of production of representative firms (see Section 106) and that, consequently, the only profits enjoyed are those we have characterized as the wages-of-management, as would be the case in the state of normal equilibrium. We will also assume that the land and natural forces for which rent is paid are self-renewing and self-perpetuating, so that the only replacement fund needed is to repair and renew worn and destroyed capital goods, and that the rent is paid in a lump sum at the end of each year. The capital goods used will be in the form either of circulating capital, that is, the wages advanced to workers, materials in process of production, etc., or fixed capital, that is, buildings, tools, machines, etc. Both kinds of circulating capital will

Assumptions Made.

* This is the term applied to hunting, fishing, stock-raising, farming, forestry, mining and quarrying, since they are concerned for the most part with "extracting" materials directly from nature.

be completely merged in the product and will, therefore, require an annual rate of replacement of 100 per cent. The fixed capital will require repair and renewal more gradually and for it we will assume an annual replacement rate of ten per cent. The current rate of interest applying to all capital will be taken to be five per cent. In any such illustration the amounts assumed to be spent for rent and wages and to be required in the form of fixed capital are, of course, quite arbitrary. We have put down $100 in each year as the expenditure for rent; $1000 in each year as the expenditure for wages; and $1000 in each year as the amount of fixed capital required.

Under these circumstances the financial results for the three years would work out as follows:

First Year		Merged in price of product
I. Rent		$ 100
II. Circulating capital: Wages	$1,000	1,000
III. Fixed capital	1,000	100
Total capital	$2,000	Interest 100
Price of product		$1,300

Second Year		Merged in price of product
I. Rent		$ 100
II. Circulating capital: (a) Wages	$1,000	1,000
(b) Materials	1,300	1,300
III. Fixed capital	1,000	100
Total capital	$3,300	Interest 165
Price of product		$2,665

Third Year		Merged in price of product
I. Rent		$ 100
II. Circulating capital: (a) Wages	$1,000	1,000
(b) Materials	2,665	2,665
III. Fixed capital	1,000	100
Total capital	$4,665	Interest 233.25
Price of product		$4,098.25

Conclusions from the Example.

The price of the final product, $4098.25, is seen to sum up and include the prices of all of the intermediate products—raw materials worth at the end of the first year $1300; form and time utilities added to these materials through manufacturing worth at the end of the second year $1365; and place, time and possession utilities added through transportation and trade worth at the end of the third year $1433.25—just as all of the utilities added at the different stages reappear in the desired combination at the end of the final stage. In the illustration the years are represented as following one another in a series. This serves to bring out the dependence of each succeeding stage on the earlier stages for the materials with which it is concerned. The indispensable condition to serial production is an accumulation of capital in advance of the whole productive process. In this example fixed capital worth $1000 and subsistence, etc., for wage-earners worth an additional $1000, were needed in stage one. The products of this stage worth $1300 had to be carried along as capital to stage two, where to complete the processes of manufacture fixed capital worth $1000 and subsistence, etc., for wage-earners worth an additional $1000 were required. Similarly in stage three capital worth $2665 in manufactured products, fixed capital worth $1000 and subsistence, etc., worth $1000 were employed during the year. Thus in the aggregate a capital of $9965 was required to carry production through its three stages and turn out at the end products worth $4098.25. Without this capital serial production with all of its advantages in output would have been impossible.

Comparison with Actual Conditions.

While this large fund of capital was necessary, under the conditions of the illustration, to the carrying of production through its three stages, it must not be concluded that another equal fund must be accumulated at the conclusion of these three years to begin the same cycle over again. Once provided with the needed capital the productive process will supply the capital goods required for renewals and replacements. The three stages of production described in the illustration follow one another in successive years. In actual industrial society all three stages, extractive industry, manufacturing and transportation and trade are carried on simultaneously.

Finished goods are passing from dealers' stocks to purchasers at the final stage, at the same instant that manufactured products are pouring into dealers' stocks at the end of stage two and raw materials are being turned over to manufacturers at the end of stage one. This parallel operation of all of the different processes of production, possible only because the requisite capital is present to keep all the stages supplied with the equipment they require all of the time, greatly facilitates the renewal and replacement of this capital as it is worn or destroyed. Thus the subsistence, etc., needed for the wage-earners in stage one is drawn from dealers' stocks in stage three, not at the beginning of the year for the whole year as we have represented but continuously throughout the year as it is required. In the same way new tools and machines to replace the worn-out fixed capital at this stage are withdrawn from dealers' stocks not all at once but gradually as they are needed. Stage two, similarly, draws materials from stage one in a continuous stream as it requires them and subsistence for its wage-earners and new tools and machines to replace its fixed capital from stage three. What is necessary is not the accumulation in advance of the productive process of all of the capital that will be needed for the whole year but the accumulation of all, or most, of the fixed capital that will be needed and of sufficient circulating capital to insure the delivery of a continuous flow of subsistence, materials, etc., at each stage of production so that the producing mechanism may operate without hitch or interruption.

Relation Between Net Product, Money Income and Real Income.

We are now in a position to appreciate the relation between the net product, the money income and the real income. The first point to note is that the calculation of the net product is a less simple matter than the definition seemed to imply. It depends on the point of view from which the productive process is analysed. If the viewpoint is that of the enterpriser wages will be included along with tools and materials as outlays, provision for the replacement of which out of the gross product or gross money return must be made before the net product or the money income can be calculated. But this obviously ignores the consideration that wages are themselves

an important form of money income. Our point of view is that of industrial society as a whole. For our purpose only the dead instruments and materials worn or destroyed in the course of the productive process must be provided for from the gross product to determine the net product and only the price of these instruments and materials should be deducted from the gross money return to determine the money income. Applying this rule the money income afforded by the first year's production will be seen to be $1200; that of the second, $1265; and that of the third, $1333.25. Since in the assumed state of normal equilibrium these combined money incomes, amounting to $3798.25 are all spent for consumable goods, this portion of the final product must take the form of consumable goods, the remaining $300 worth of goods being the tools, machines, etc., needed to renew and replace the used-up fixed capital. The replacement of the materials used up at stages two and three is effected by appropriate deductions from the gross money returns of those stages to provide means to pay for new stocks of materials received from stages one and two. Since all of these stages are carried on simultaneously the withdrawals of real income and of capital goods for replacement are constantly balanced by the stream of products flowing continuously forward from the inception of stage one to the completion of stage three. The net product, the money income and the real income are exactly interchangeable and are being constantly interchanged.

Graphic Illustration.

§ 103. Since the relations we are trying to picture are between flows of goods rather than fixed funds of goods, certain of their aspects may be more easily presented in graphic than in arithmetical form. The figure on the next page represents capitalistic production in a self-contained industrial society brought to a state of normal equilibrium. In it are represented in successive and connected compartments the three great branches of production: the extractive industries, manufacturing, and transportation and trade. Raw materials, the products of the extractive industries, flow through from left to right, being enriched as they pass along by the addition of form, place, time and possession utilities. On leaving the hands of dealers, they are separated

Explanation.

into two great streams, one, the replacement fund, which flows back to repair and renew capital goods worn or destroyed in the process of production, the other, consumption goods, which begin immediately to gratify wants. The consumption goods stream is again subdivided, one branch conveying the second and subordinate replacement fund needed

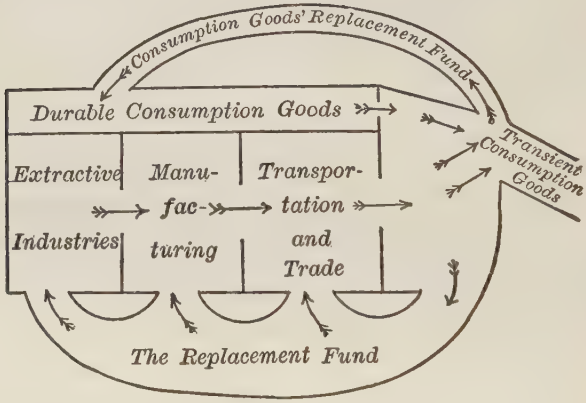

Fig. 7.

to repair and renew the durable consumption goods whose presence is indicated at the top of the diagram and which give off a continuous stream of utilities to mingle with those afforded by transient consumption goods, the other and larger branch into which the main consumption goods stream is divided. The net product represented in this diagram consists in part of raw materials, in part of manufactured goods, finished and unfinished, and in part of the utilities subsequently added at the stage "transportation and trade." Only a very limited part is sufficiently advanced to be flowing out with the stream of consumption goods to minister directly to human wants. On the other hand it is from this stream of consumption goods that the entire real income for which the money income is exchanged is drawn. Although the identical goods constituting the real income are thus for the most part other than the goods constituting the net product, the latter consists of exactly similar utilities quantitatively and

qualitatively as the former. At each point the streams of goods flow on evenly and unbrokenly so that the "transient consumption goods" that are allowed to escape, and which constitute the real income, are exactly replaced by the goods included in the net product. The diagram thus represents movement without change. It depicts the circulation of goods that is going on in actual industrial society with the elements of change and monopoly eliminated.

Complications in Actual Industrial Society.

§ 104. In making use of the assumption that industrial society is brought to the state of normal equilibrium so that we may study it more easily, we must be clearly conscious of what we are taking for granted and what problems are therefore left over for independent explanation. In the first place we are excluding all monopolistic tendencies. These in actual industrial society play a highly important rôle. In the following chapters we devote a good deal of attention to the problems to which they give rise (Chapters XIII. and XXIII.-XXV.). Second, in excluding changes and assuming that competition has worked out its full effects, we ignore the important share of income that arises in actual industrial society in consequence of changes and progress. This makes necessary a special chapter on this share (Chapter XII.). Third, we take for granted the existing supplies of land and natural forces, workers and capital goods and consider only how, given these supplies, free competition tends to apportion them among different industries and to distribute among them their respective shares of the net product, money income or real income—since, under the assumed conditions, these items are interchangeable. This leaves for independent consideration the whole problem of the extension of man's utilization of land and natural forces, and the even more difficult questions as to the causes which control the growth of population and the increase of capital (Chapter XVIII.). Until these questions are dealt with our discussion of distribution must remain incomplete.

Importance of Prices.

§ 105. Whether or no the assumption of a condition of normal equilibrium be employed, the logical starting point for a discussion of distribution is the causes which determine values in exchange and prices, since the aggregate price re-

ceived for the product constitutes the gross money returns of a business and this less the replacement fund constitutes the money income. As explained in Chapter VII., the prices at which goods sell correspond closely to the money equivalents of their marginal utilities, or marginal uses in the case of producers' goods, to marginal buyers, that is, to the buyers who are just induced to purchase a part of the available supply.

Influence of Marginal Buyers.

If the available supply be small the prices will be relatively high, marginal buyers being those to whom the goods have high marginal utilities or uses, or who have large incomes to spend. The larger the supply the lower the price must be, since less eager or less wealthy buyers must be appealed to to effect the sale of the larger stock. Under all circumstances, however, one determinant of the prices of goods is the money equivalent of their marginal utilities or uses to marginal buyers. The money income derived from a business, determined, as already explained, by the prices received for the products, is, therefore, determined in turn by the marginal utilities or uses, valued in money, of these products to marginal buyers. In other words, one of the first principles in regard to distribution to be remembered is that *the money income to be distributed is determined by the want or use scales of buyers coupled with the money or purchasing power which they happen to command.* As this money or purchasing power in the hands of buyers is itself for the most part money income previously received, production, distribution and consumption mutually determine one another.

Influence of Expenses of Production.

But this is only one side of the matter. On the side of production, except when monopoly intervenes and supplies are artificially controlled, the stress of competition causes the supplies of goods to be increased (or decreased) until their prices correspond to the expenses of production of marginal sellers. These expenses are not, however, independent of the prices they help to determine. They are themselves derived from these prices. But they serve to equalize prices by acting as regulators of the supplies of competitively produced goods. For example, the wages of labor, which are an important item

among the expenses of production, are derived from the prices paid for the goods which labor helps to produce. Labor in and for itself is not valuable. It is only valúable because through it valuable goods are produced. Labor which did not, or was not expected to, result in valuable goods would be worth nothing. But since normally labor does result in valuable product, a day's labor comes to be recognized as commanding a certain wage. This current rate of wages, itself derived from the prices received for the products of labor, is an item of expense to any one who wishes to start a new branch of production. Unless the expected products promise prices sufficient to cover this and other items of expense the new line of production will not be undertaken. Thus the current rate of wages stands as a barrier to the extension of production in this direction or in that, and in this way controls the supplies of goods that are produced. It serves to equalize supplies by checking production whenever it threatens to be unprofitable. The tendency thus is for production to be extended in each direction up to the limit set by the expenses of production to marginal producers. In this way the expenses of production figure as an important secondary factor in the distributive process in connection with competitively produced goods.

In an industrial society brought to the state of normal equilibrium, production will be perfectly regulated by competition so that each branch of production will have its exact proportion of the available labor force and other factors in production. The wages received by any given grade of workmen will be the same in different branches of production, because prices and the expenses of production will be exactly adjusted to each other.

Representative Firms and Normal Prices.

§ 106. The expenses of producing commodities of each sort are different for different firms. For new firms just establishing business connections and not yet ready to produce on the scale that experience has shown to be most economical, expenses are high. They are high also for old firms that are overgrown or for some other reason are falling into decay. They are lowest for those firms which have attained just the size necessary for most economical production and which are

managed with greatest ability.* Among such firms those managed with average ability may conveniently be designated as *representative firms.* These firms are the *marginal sellers* of competitively produced goods whose competition serves to keep prices from deviating very far from the norms fixed by their expenses of production. The expenses of production of representative firms may, for this reason, be described as the *normal expenses of production* and the prices corresponding to them as the *normal prices,* about which, as already stated, market prices tend to oscillate. The market price cannot fall for any length of time below the standard fixed by the expenses of production to representative firms, for under such circumstances they suffer losses and proceed to curtail production until demand for the diminishing supply of the commodity brings its price back to a remunerative level. The market price cannot rise for any length of time above them because then all representative firms will be making an extra profit and some will seek to secure more of it by enlarging the volume of their production. Supply will be increased and this in time will bring the price down to the old level or force it below it. Or, looking at other effects, as the price falls below the expenses of production to representative firms decaying firms are forced into bankruptcy and new firms are so discouraged as to withdraw from the business, and in these ways supply is lessened. On the other hand, a rising price not only encourages tottering firms to keep up the struggle but induces new firms to enlarge the capacity of their plants for the double purpose of selling more at the high price and of realizing the economies of large-scale production. In these ways the supply is increased and the price is brought back to the normal.

* Nothing is said about differences in expense due to differences in the qualities of land or natural power used because these are fully covered by the item rent. For example, if a farmer, cultivating all of his land in the same way, produces on some acres larger crops than on others year after year, the differences must be ascribed to differences in the land, and a proportionately larger allowance for rent must be charged against the better acres than against the poorer. This extra rent may in practice be merged in the gross rent charged for the whole farm, but it is no less important in determining how large this gross rent should be.

It must be carefully noted that the above reasoning assumes not only active competition but the absence of change as regards the expenses of production per unit of product which representative firms incur. If conditions are changing so that these expenses vary constantly even the most persistent competition may fail to cause the price of the product to correspond accurately to the normal expenses of production. It would tend always toward such correspondence, but it might never attain to it. In actual practice market prices seldom do conform exactly to normal prices, and no explanation of distribution is complete which fails to make full allowance for discrepancies between the two. By reference to normal prices, as standards, however, the circumstances determining the shares in distribution can be quite as logically and more easily explained, than they could be if the tendency of competition to bring market prices to the normal were ignored. The prominence given to normal prices in these pages is thus a convenient logical device for simplifying what would otherwise be bewilderingly complex.

The Shares in Distribution.

Normal prices for competitively produced goods just cover the expenses of their production—the allowance for the replacement of capital goods, rent, interest and wages. As a usual thing these four items of expense are incurred by the enterpriser before production is concluded and before he knows what prices he is going to get for his products. He buys his materials, tools, machinery and other capital goods at current prices, he borrows capital to pay for them, and perhaps to pay wages, at current rates, he hires workmen and leases land on the terms fixed for him by general market conditions rather than on his own terms, and all of these arrangements are entered into before the product is ready for sale. It is in this contracting to pay the expenses of production before the product is ready for sale or the price to be received for it known, that the principal risks of business, which it is the enterpriser's function to incur, consist. When prices are normal the representative firm receives from its sales just enough to cover its expenses of production including an adequate wages-of-management. Any deviation from the normal means extra profit or unexpected loss to the enterpriser

or to stockholders, who are the risk-takers in corporate undertakings.

Competitive and Monopoly Profits.

The market prices of goods may differ from the normal prices corresponding to the normal expenses of producing them, either because conditions are changing and competition has not yet adjusted supply to demand at the new normal price level, or because competition is itself absent and monopoly stands as a barrier to such an adjustment. In the former case we have to do with what we may call a *competitive profit* (or *loss*) in the latter with *monopoly profit.*

The Law of Competitive Distribution.

§ 107. From the point of view of production rent, wages and interest are expenses while competitive and monopoly profits are surpluses due to deviations of market prices from the normal. From the point of view of distribution all five are shares into which the money income derived from a country's industries, that is, the gross money return less the deduction required to replace and maintain the fund of capital, is divided. It is the task of the theory of distribution to explain what causes, at last analysis, determine the size of these different shares. In the following pages we have attempted to prove the thesis that *competition tends to secure for each factor in production a share of the money income corresponding to what it itself produces.* Every circumstance which causes market to diverge from normal prices interferes with this result and occasions profit or loss to enterprisers above or below their proper wages-of-management. The chapters on Competitive Profits and on Monopoly Profits discuss the circumstances that may cause such divergence and the shares of income to which they give rise. The chapters which follow on Rent, Wages and Interest attempt to show that each tends to be the share of the normal price corresponding to what the factor concerned contributes to production. Finally the concluding chapters on Value and Distribution recapitulate the explanation in more general terms and add the last link in the chain of reasoning by indicating the causes that control the supplies of workmen and of capital goods.

An explanation of the causes that determine the shares into which the net product is divided is by no means a complete account of the influences which make some men rich and

others poor. There are a great many circumstances that affect the distribution of wealth that are uneconomic in character. For example, no one factor is more potent in deciding that some shall be rich while others are poor than the inheritance of property. On this topic the economist should have something to say, but it is said more appropriately in connection with the discussion of the justification of the institution of private property itself and of inheritance taxes (Sections 290 and 291) than with the theory of distribution. In the same way the philanthropies of public-spirited citizens in endowing art galleries and other institutions for public enjoyment and instruction and the intelligent expenditures of municipalities in supplying free schools, playgrounds and parks, contribute important elements to the real incomes of the citizens of every community, but these contributions are not subject to economic law. The theory of distribution is necessarily limited to the division of the money income among those who on one ground or another have an economic claim. It must be supplemented by a study of many other factors to furnish a complete understanding of the causes of wealth and poverty.

REFERENCES FOR COLLATERAL READING

***Clark,* Essentials of Economic Theory, Chaps. V. and VII.; **Fetter,* Principles of Economics, Chaps. VI., XXX., XLII. and XLIII.; **Marshall,* Principles of Economics, Book VI., Chaps. I. and II.; **Carver,* Distribution of Wealth, Chap. III.**

CHAPTER XII

DISTRIBUTION: COMPETITIVE PROFITS

§ 108. Competitive profits (or losses) arise in consequence of deviations of market from normal prices. We must now inquire into the causes of such deviations. As every business man knows, the conditions under which he must carry on his business are largely determined for him rather than by him. Knowledge of the best ways of producing things has become common property, and for the most part he must employ methods which are equally open to his competitors. Moreover there are current rates for the different productive factors and usually he must pay these or find himself unable to command the land, workmen or capital goods he requires. But notwithstanding the limiting influence of conditions, there is always in progressive communities a debatable margin where the intelligence, originality and daring of the enterpriser have full scope. He is free to determine what goods he shall produce, what quantity he shall produce and, to some extent, by what methods he shall produce.

At the debatable margin the enterpriser exercises what we may conveniently call his *power of substitution.* The substitutions open to him are of two kinds. First, there are substitute uses to which the different factors of production may be put. Pieces of land may be used for different crops or building sites, workers may be employed at different tasks, and capital goods, except those that are highly specialized, may be made to aid production in different ways. In general enterprisers tend to devote each particular factor to that use in which it affords the largest return. Second, there are substitute combinations of the factors of production that may be made for the accomplishment of the same productive purpose. For example, dirt may be moved by many men and little capital in the form of hand shovels or by few men

and much capital in the form of steam shovels. Shoes may be made largely by hand or largely by machinery. A given crop may be raised on one piece of land without capital in the form of special fertilizers or on another with fertilizers. In deciding between these and alternative combinations enterprisers tend to choose the ones that are cheapest in the given situations.

If all changes were suspended and monopoly did not intervene, enterprisers would use their power of substitution until each factor was assigned to that branch of production in which it afforded the largest return and until in each branch of production just that combination of factors was made which was found to be most economical under the given conditions. As a result industrial society would be brought to the state of normal equilibrium. All prices would be stable; production, distribution and consumption would follow one another with undeviating regularity, and the profits of enterprisers would just cover their wages-of-management. In actual industrial society, far from being suspended, changes are of frequent occurrence, and it is because of them that *competitive profits,* that is, *profits in excess of the wages-of-management not due to some monopolistic advantage,* arise.

Definition of Competitive Profits.

The most important changes that commonly occur, and, therefore, the principal causes of competitive profits are: (1) price fluctuations, which may be confined to particular commodities or general; (2) the introduction of novelties; (3) improvements in methods of production; (4) variations in climatic or other natural conditions; (5) the exploitation of new lands and natural resources, and (6) modifications in the current rates of remuneration of other factors in production. Each one of these causes merits separate consideration.

Their Causes:

§ 109. That fluctuations in the prices of particular commodities are one of the most common causes of profits is a fact familiar to every business man. In making their calculations for the future enterprisers estimate the prices they will have to pay for the materials, etc., which they must use and the prices they will receive for their products. If materials become cheaper or products dearer after they are embarked on their undertakings their profits will be larger than was

Fluctuations in Prices.

expected. Dearer materials and products commanding lower prices, on the other hand, will cause a miscarriage of their plans and inflict loss upon them.

Means of Limiting Fluctuations.

Conservative enterprisers try to prevent adverse price fluctuations by a variety of expedients, ranging all the way from mere verbal understandings among competitors to monopolistic combinations. Mere verbal understandings, unless supplemented by some effective means of controlling the volume of goods produced, serve to lessen the frequency of price fluctuations but not their extent. The rise or fall in price which in the absence of any agreement results from a number of slight modifications, is made, under the system of agreements, at one bound as soon as the agreement lapses or is broken and free play is again given to the pent-up forces of competition. Notwithstanding this disadvantage enterprisers seem to find even temporary stability preferable to the constant oscillations of a freely competitive market, and price understandings among competitors, ranging from the familiar pools of the stock market to agreements among producers of materials, such as coal and iron ore, and of agricultural products, such as fruit, are becoming more and more common phenomena.

Dealings in Futures.

Another expedient for minimizing price fluctuations is dealing in "futures." Enterprisers who wish to eliminate so far as possible the element of uncertainty from their businesses, contract ahead both for the materials they are to use and for the sale of their products. This practice has become especially marked in the building trades and in connection with different branches of iron and steel production. Building contractors, for example, before making bids on the erection of structures, secure options at certain prices for the delivery of the materials they will require. They then make their estimates with full knowledge in regard to the cost of these materials. If their bids are accepted the only uncertainties involved in the venture attach to the accuracy of their estimates of the quantities of materials required and of the expense for labor. Similarly in the iron and steel business it is customary for manufacturers to contract ahead for materials at the same time that they book orders for

their products months in advance. The tendency of dealings in futures is to assign to a particular class, namely, to those who have a special talent and taste for forecasting price variations, the task of estimating the future conditions of demand and supply in each market and naming in advance the prices which competition will tend to establish. The more accurately this class makes its calculations, the more perfectly will its operations cause the present price of each good to adjust itself to the price to be established in the future. The best illustration of this in the United States is furnished by transactions on the produce exchanges.

Illustrated by Reference to Wheat.

§ 110. Produce exchanges are now found in nearly all large cities in Western countries and in them contracts for the delivery of the great staples, corn, wheat, cotton, pork, etc., are made three, six and even nine months in advance. Thus in the autumn, after the crops have been harvested, wheat is regularly dealt in in the United States for December, May and July delivery. The wheat available for May delivery has already been harvested, so its amount can be determined with a fair degree of accuracy. Between the end of May and the end of July new wheat will find its way to the market, and this is a factor to be reckoned with. Figuring on these data and any others that they can secure, wheat operators make their estimates in regard to probable price movements. They decide in their own minds what prices will prevail in May and July and buy or sell accordingly. Suppose that an influential group of operators accurately foresees that a much higher price must prevail in May than prevails in December. Their course will be to buy wheat for May delivery and to continue to buy it so long as there is any margin between the price they anticipate and the price at which others are willing to contract to deliver it. But all wheat stored in elevators in December is potentially wheat for May delivery. It is a simple calculation to subtract the fee for storage and insurance and the interest on the capital invested to determine what price such wheat should command in December to correspond with a given May price. As the May price rises the December price must, in the absence of some extraordinary condition, rise also. It follows that by forecasting accurately

the higher price to prevail five months hence the operators help to advance the present price of wheat. As the price rises present consumption will be curtailed somewhat and more wheat will be set aside for future use. This additional wheat will figure as part of the May supply and should lead the operators referred to to reduce somewhat their estimate of the May price. The lower price for wheat for future delivery will be reflected back to present, or "cash," wheat and will depress its price. In this way by means of calculations which constantly require revision operators in futures tend to adjust the present to the future price and to narrow the range of price oscillations.

Service of Speculators.

Some of the shrewdest and best-informed men in the United States find it profitable to devote much of their time to studying the conditions of supply and demand with reference to each of the great staple products. They make mistakes in their calculations, of course, and very often buy or sell for future delivery at prices widely different from those which actually prevail when the future time arrives. But they are less apt to make mistakes than men who are without their special talent and training, and on the whole their operations have a decidedly steadying influence on the prices of the commodities in which they deal. Even more important is the service they render in assuming risks in regard to price changes which otherwise all enterprisers would have to share and in making it possible for conservative producers to know just what prices they will have to pay for needed materials months before they have occasion to use them.

Speculation *v.* Gambling.

Not a little criticism has been directed against dealings in futures on the ground that such transactions are highly speculative. This cannot be denied, but it must be remembered that it is not merely the dealings in futures, but the future itself, that is uncertain. If such dealings can be confined to the men most competent to make accurate predictions, their tendency will clearly be to lessen the uncertainties of business. The operations of such men prepare the whole business community for changes that are inevitable, long before less observing people see any reason for them. Unfortunately the question of the social expediency of dealings in futures is

mixed up with the wider question of the expediency of stock and commodity speculation as it is now carried on in the financial centers of the country. It is notorious that this speculation is not confined to men who make it a business and are trained for it in the hard school of experience, but that it is also indulged in intermittently by a great army of men and women whose only qualifications are a taste for gambling and the consciousness of having money to play with. To the extent that these uninformed speculators accept the leadership of men of sound judgment and wide experience, their presence simply increases the influence which such men can bring to bear when they deem imminent a change in prices. Too often, however, the mob follows after some false prophet and makes him more of a power for evil than he could be if he had only his own wealth to misdirect, or is deceived by some sagacious but unscrupulous operator who circulates false reports designed to cheapen what he wants to buy or to enhance in price the things he wants to sell. In either case its influence is altogether pernicious. How to confine speculation to those who have aptitude and training for it and to discourage stock and commodity gambling is one of the important practical economic problems of the day.

General Price Movements.

§ 111. In addition to oscillations in the market prices of particular articles, there are general price movements which affect all business. When money prices generally are rising all enterprisers are in the happy situation of receiving more for their goods than they expected. They have paid or agreed to pay for materials and factors of production prices and rates adjusted to lower price conditions. Any increase in the prices they obtain for their products affords an extra or competitive profit. The usual effect of such a situation is to stimulate enterprise. Every one in business for himself is making money and all but the most conservative wish to enlarge the volume of their businesses so that they may make more. Enterprisers eagerly compete with one another for control over the factors of production, and by this competition rents and wage and interest rates are advanced until prosperity appears to be general. To illustrate, suppose the different branches of production are represented by the letters A, B, C, D, etc. In all

Effect of Rising Prices.

these industries profits above the wages-of-management are being received. Enterprisers in industry A are encouraged to enlarge the producing capacities of their plants and to enter the market as hirers of labor and borrowers of capital. But the number of workmen and the supply of capital goods are not to be increased at will. To employ more labor and capital at A means normally to draw them away from B, C and D, and this can be done only by offering higher wages and higher rates of interest. But at B, C and D, there are similar inducements to enlarge production. Rather than lose workmen or capital goods, enterprisers in these industries will offer still higher wages and interest. This competition will continue so long as there is any extra profit in any line of competitive business to induce it. Unless prices continue to advance to ever higher levels the rising expenses of production will presently cut down the margin of profit until it again amounts only to the wages-of-management to which enterprisers are entitled. Such bursts of prosperity, if unaccompanied by an actual increase in the net product of goods, benefit enterprisers at the expense of the other sharers in distribution, whose money incomes increase less promptly than the prices of the goods they consume. As a rule, however, one effect of rising prices is to furnish more active employment for all of the factors in production and to cause a correspondingly enlarged output of goods. In time this increased volume of goods will be available for consumption and then the prosperity will begin to have a solid basis in the increased well-being of all classes in the community.

Of Falling Prices.

A period of falling prices affects industrial relations in an exactly opposite way. Instead of receiving profits in excess of their wages-of-management, enterprisers now experience losses. To reduce these so far as possible, they tend to reduce the volume of goods which they produce and to curtail the expenses of production. Either by discharging workmen and failing to renew capital as capital goods are worn out, or by cutting down rents, wages and interest rates, enterprisers compel other classes to share their losses with them. Unless the fall in prices continues, it will not be long before the expenses of production are scaled down by these measures to a

point which again permits enterprisers to enjoy wages-of-management commensurate with their abilities. In this case the depression, in the sense of diminished well-being, will be merely apparent until it causes an actual curtailment of the net product. During the short interval that business is continued on the same scale in the hope that the drop in prices will prove to be only temporary, what enterprisers lose will be gained by other sharers in distribution, whose money incomes now mean larger command over consumable goods.

If space permitted abundant proof of the truth of the above description might be cited from the industrial history of the United States. The most serious industrial depression which the country has experienced, that of the years 1893 to 1897, was the culmination of a long period of falling prices. On the other hand, the remarkable prosperity which the country enjoyed from 1897 to 1907, almost without interruption, was closely connected with the rise of prices in that period. These general price movements receive further consideration in connection with the subjects of Money and Credit (Chapters XIX.-XXI.).

Profits from Inventions.

§ 112. Enterprisers who discover, invent or make available new and more economical means of want gratification are among the greatest benefactors of the race. It is through their efforts that the consumption of a people gradually adjusts itself to the productive capacities of the environment. Examples of such innovations are legion. Of late years in the United States dozens of varieties of cereal foods have been invented, which preserve the nutritious elements in the grains more fully than the white wheat flour which they serve in a measure to supplant. In the domain of transportation, bicycles and trolley cars have already largely superseded horses, and they in turn are beginning to be supplemented, if not superseded, by automobiles and aeroplanes. Other recent inventions of far-reaching importance are the telephone, the linotype and the typewriter. In connection with each of these innovations and thousands of others introduced during the last thirty years, large profits have been made either by the inventors themselves or by the enterprisers who have made the inventions commercially successful.

In estimating the extent of these profits to enterprisers as a whole two substantial deductions must be made. In the first place few if any new goods are offered for sale which do not attract purchasers from other goods. Even novelties which do not directly supersede other goods previously used for the same purpose, cause substitutions which are detrimental to the interests of other enterprisers. Thus the introduction of the bicycle is said to have interfered with the business of watch manufacturers in the United States. In a similar way the introduction of the trolley car led to the shutting down of more than one horseshoe-nail factory. From the large profits of enterprisers who produce and sell successful novelties must be deducted the losses of enterprisers whose businesses suffer because novelties are put on the market. The second deduction is for losses incurred by inventors and enterprisers who try to make a success of novelties which are not appreciated by the consuming public. Millions of dollars are spent every year in the promotion of discoveries and inventions which are complete failures from the business standpoint. In a country like the United States, where enterprisers are willing to assume large risks in the hope of large gains, it is not at all unlikely that more is lost every year in the effort to find a market for unsuccessful novelties than is made in connection with those which succeed. The net profit to enterprisers collectively from the production of novelties is, for these reasons, smaller than most people imagine.

Profits from Improved Methods.

§ 113. Quite as conspicuous in a progressive country as profits from novelties are profits from improved methods of production. Every enterpriser is constantly on the alert to improve his methods of production and in this way to reduce his expenses. Consider, for example, the situation of farmers. If they are to make more than mere wages-of-management they must improve on current methods of cultivation. By treating the land in a different way, using new fertilizers, organizing their labor force better or buying superior kinds of agricultural machinery with their capital, they may accomplish this result. As their expenses of production are reduced, a larger margin is left as an extra profit or reward for their enterprise. But such improvements soon become

matters of common knowledge and common practice. Other farmers imitate them, and in time they become the methods of representative farmers generally, whose expenses have a determining influence on prices. The extra profit which was for a while enjoyed disappears either because prices are lowered or because wages, interest, etc., are raised or because both changes coöperate in adjusting prices again to the expenses of production. As for farmers, so for manufacturers and enterprisers in other fields, new methods of production are an important, if not the most important, source of competitive profits.

As the above analysis suggests, profits, which are not monopoly profits, are soon overtaken and eliminated by competition. If improvements were to cease profits from this source would soon cease also. In progressive communities they continue to be an important element in the wealth annually divided among the sharers in distribution because improvements follow one another so swiftly that for every extra profit that is cut off by competition other extra profits due to more recent innovations are substituted.

The same process which cuts down extra profits as the new methods upon which they depend are more and more generally used, inflicts loss on enterprisers who have not the intelligence or courage to adopt them. Their expenses of production remain stationary and in consequence they incur losses as the competition of progressive enterprisers forces prices down to the new cost level. From this it follows that the extra profits of the progressive are usually offset before they disappear by losses on the part of the plodding and unprogressive. It is for this reason that business failures are more common in the most progressive and on the whole prosperous countries than in those where old methods are adhered to and innovations are frowned upon. In the former competition is more strenuous and the relatively unfit are more promptly eliminated.

Profits and Losses from Changing Natural Conditions.

§ 114. All industries which depend upon climate, rainfall, the direction and velocity of the winds or other variable manifestations of nature show irregular returns from year to year, and these irregularities count as profits or losses to enter-

prisers. The variable profits of the farmer from this cause are familiar to every one. He invests capital in the cultivation of his land, paying rent, wages and interest at rates determined by general market conditions. In making his calculations he assumes that he will realize at least an average crop. If it prove to be a good year the crop will be larger than the average and he will receive for it enough to cover the expenses of production and to leave a comfortable margin for profit. In a poor year, on the contrary, he may not only make less than his proper wages-of-management, but even lose some of his capital. Similarly dependent upon nature are cattle raisers, hunters, fishermen, navigators and many others. In the case of each the variability of nature appears as a perennial cause of profits and losses.

There is every indication that progress in the technique of production is gradually lessening man's dependence upon nature's moods even in the extractive industries. In farming increased ability to foresee weather changes, artificial irrigation and a host of other improvements enable the cultivator to surmount natural difficulties which would at one time have been fatal to success. In water navigation even greater advances have been made, since steam vessels are now well-nigh indifferent to all but the severest storms. This progress will doubtless continue, but for many generations the industries which at some points depend upon variable nature will show profits or losses as natural conditions are favorable or the reverse.

Side by side with the progress made in counteracting unfavorable natural conditions, there has been a development of the business of insurance, by means of which losses due to accidental causes which used to fall with crushing force on the individuals affected are borne by whole groups of individuals. Insurance thus substitutes for the uncertain prospect of profit or loss the certainty of somewhat higher expenses of production. If it could be developed far enough, profits and losses due to the irregularities of nature might be entirely eliminated, so far as the individual enterpriser is concerned.

Profits from New Land. § 115. In a comparatively new country like the United States an important source of profit is the exploitation of

virgin land and new mineral and other natural resources. As these resources are opened up and their value is demonstrated the incomes to which they give rise become subject more and more to the principles determining rent. During the early stages of exploitation, however, they are too irregular and uncertain to be classified as anything else than profits to the enterprisers who devote time and means to their development.

Profits from this source in a progressive country are sure to exceed largely losses due to misdirected investments. At the same time it is a debatable question whether in some highly speculative ventures concerned with the exploitation of new resources, such as gold mining, more wealth has not been wasted in the fruitless attempt to develop paying mines where nature has created none, than has been returned in profits and rents to the fortunate enterprisers who have made rich strikes. There is a fascination about searching for mineral wealth, and especially for gold, that attracts men and capital out of proportion to the likelihood of success in such enterprises, and though it may not be true as sometimes alleged that every pound of gold in existence has cost on the average more than it is worth, this certainly approximates the truth.

The large element of chance that figures in the determination of profits from the development of new regions, makes economic desert of less moment here than in connection with other species of profit. This is particularly true in connection with the mining industry, which presents numerous examples of able men toiling through their whole lives for a scanty and precarious subsistence, while others, having neither ability nor training, acquire great wealth. There can be no question that it would be to the advantage of industrial society, if the returns to enterprisers in these industries could be equalized without lessening the motives which encourage their activity and enterprise. Society could hardly undertake to share the losses of those who make unwise investments, as this would put a premium on folly, but it has been argued that society may properly share the profits of those whose ventures are successful. A possible way of realizing to some extent this ideal in the United States would be to substitute for the policy

of selling the mineral lands still belonging to the government the policy of leasing them on a royalty basis, as is very commonly done by private owners.

Profits from Changing Rents, Wages and Interest.

§ 116. Thus far in our analysis of profits we have assumed that the rents and wage and interest rates that enterprisers must pay are fixed by general market conditions and may not be changed by individual enterprisers. This is true to the extent that general market conditions remain stable, but when these are changing, as they usually are in developing countries, when new lands are being brought under cultivation, when the population is growing, and when capital is increasing, then rents and wage and interest rates must change too, and there is opportunity for capable enterprisers to hasten or resist general tendencies and in this way to secure for a time profits above the wages-of-management. A few examples will indicate how profits may arise from these sources.

One change that went on in the United States for several decades was the lowering of agricultural rents in the Eastern States as new lands were developed in the West. Aggressive farmers of rented farms took the initiative in demanding better terms as economic conditions made a fall in rents inevitable. By so doing they avoided the losses that their less progressive neighbors sustained by consenting to renew their leases on the same terms as before. In other sections where rents were rising the more aggressive tenant farmers refused to pay more until actually compelled to, and in this way kept their expenses below those of their more tractable neighbors.

Similarly there have been general movements in the wages that competition secures for different grades of labor. When wage rates are rising, it is usually possible for some enterprisers to resist the movement for a time and in this way to keep down their expenses, without losing any considerable number of their employees. Eventually they must accept the higher rates or lose their men, but during the interval that they refuse to do so, they may reap an extra profit. On the other hand, aggressive enterprisers lead the movement to reduce wages when rates are tending downward and may in this way cut down their expenses sooner than their competitors, who receive no higher prices than they do for their

products. In agreements as to rates of interest there is less chance for overreaching because those who lend and those who borrow are about equally conversant with the conditions. At the same time even here some enterprisers gain an advantage when rates are changing by making better terms than their competitors.

In all of these cases prompt adaptation to favorable conditions or grudging acceptance of unfavorable changes only at the eleventh hour give rise to profits. Failure to cut down expenses as occasion offers or too ready acquiescence in rising expenses may, on the other hand, cause losses.

Conclusion.

§ 117. In this brief discussion of the causes of competitive profits it has been possible to indicate only the more important of the many circumstances which give rise to them. The financial columns of every newspaper teem with items illustrative of the general causes of profits that have been described and suggest others to which no reference has been made. In connection with all of these causes of profits the essential principle to note is that they originate in change and are important because it takes time for competition to adjust economic relations to changed conditions.

When an industrial society is progressing and in each period there is more wealth to be divided among the sharers in distribution than in the preceding period, a large part of the increase will appear temporarily as extra profits going to its enterprisers. In the same way, when an industrial society is retrogressing the loss will fall first upon its enterprisers. Theirs is the elastic share that increases or diminishes readily in response to changed conditions. But whether the net balance happens to be above or below the wages-of-management, competition among enterprisers themselves is a force which tends constantly to make their gains correspond to bare wages. Profits stimulate them to bid against one another for the factors of production and to raise rents and wage and interest rates until expenses and prices are again equal. Losses lead them to contract production and cut down expenses until in this way equality is restored. Thus, however large profits or losses may be at any given time, they are always in process of extinction—always, that is, unless monopoly influences in-

tervene and prevent the forces of competition from accomplishing their work of elimination.

REFERENCES FOR COLLATERAL READING

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CHAPTER XIII

DISTRIBUTION: MONOPOLY PROFITS

Definition of Monopoly.

§ 118. *Monopoly means usually in economics such control over the supply of an economic good as enables the monopolist to regulate its price.* This definition refers to *producers'* or *sellers' monopolies.* Contrasted with these are *buyers' monopolies,* which rest on control over the demand and the regulation of prices from that side. In practice buyers' monopolies are so unusual that only brief consideration is given to them in this treatise.

Contrast with Differential Advantages.

A distinction which it is important to note at the outset is that between monopoly and differential advantage. In nearly every branch of competitive business differential advantages are found. In farming one producer of wheat uses better land than another producer. In manufacturing one mill owner utilizes a superior source of water power. In all pursuits competitors are themselves differently endowed, some being more capable than others and receiving larger returns, while all are selling the same goods in the same markets at the same prices. Although important sources of income, such differential advantages are not the cause of monopoly profits. The fact that some pieces of land and some sources of power are better than others, does not prevent an active competition among farmers and manufacturers which tends to keep prices down to the expenses of production of representative firms. Equally ineffectual as a bar to active competition are the personal differences among men. The consideration of the influence of these differential advantages upon the distribution of incomes, belongs under the head, not of monopoly, but of rent and wages. Only when competition is interfered with and one firm or a combination of firms secures such control over the supply that it may regulate the price, does monopoly appear. Its essence is control over the supply and its surest indication is regulation of prices.

Kinds of Monopolies.

§ 119. The principal classes of monopolies which are of interest to the economist are: (1) personal monopolies; (2) legal monopolies, which may be (a) public or (b) private; (3) natural monopolies of situation; (4) natural monopolies of organization; (5) capitalistic monopolies; (6) labor monopolies.

A personal monopoly arises when one individual controls the supply of a given good, either because he possesses unique talent (*e. g.*, an artist's monopoly of his own works), or because he uses a secret process so superior to all other processes that he is able to drive all competitors from the field. A legal monopoly is one based upon some law or governmental privilege. Examples of public legal monopolies are furnished by the tobacco monopoly of France, the salt monopoly of Saxony and the post-office monopoly of the United States. The most familiar private legal monopolies are those based on patents, copyrights and exclusive franchises. Natural monopolies of situation are of two kinds: those due to social and those due to physical conditions. Of the first kind are the monopolies which the single village blacksmith and storekeeper enjoy until competitors enter the field. More important are monopolies of the second kind, which depend upon some physical limitation in the sources of supply of the goods controlled. Of this type are businesses using unique mineral springs or mountain passes, or controlling the whole areas from which certain commodities, such as diamonds in Africa or anthracite coal in the United States, are obtained. Natural monopolies of organization are businesses which obey a law of diminishing expense, no matter how large the business becomes. Such are the railroad and businesses concerned with the distribution of letters, telegrams, parcels, gas, water and electrical power. Capitalistic monopolies are those which result from the concentrated power of large aggregations of capital and are represented in the United States by the so-called trusts. Labor monopolies are monopolies resulting from combinations of skilled workmen able to control the supply of the economic good, labor.

When all of the businesses in a country like the United States which may properly be classed under one or other of

the above heads are considered, the importance of monopoly is more likely to be exaggerated than underrated. Personal monopolies are encountered in connection with all artistic and professional work. Although not usually the ground for very large incomes in individual cases, they exert in the aggregate a considerable influence on the distribution of wealth. Secret processes are not at present the source of very great monopoly returns but only because those who control such processes usually prefer to have their monopolies confirmed by patent. The number of patented processes now used in connection with business enterprises may be inferred from the fact that during the last seventy-five years the United States has issued more than 1,000,000 patents. Although the monopolies to which patents give rise are only temporary, in a country in which processes are so soon superseded as they are in the United States, they serve to give a monopolistic character to a great many branches of manufacturing business. Businesses enjoying exclusive franchises are less common, but on the other hand they include some of the branches of production that are most vital to the general well-being such as water, gas and street railway companies. Natural monopolies of situation are not as yet very important, but they appear to be on the increase. A few years ago the suggestion that a single corporation could monopolize the iron-ore and coking-coal resources of the United States would have been greeted with incredulity. Such a consummation was by no means realized by the Steel Trust, but its progress in that direction must make economists hesitate to impose any limits upon the possible development of natural monopolies of this type in the absence of legal interference. The importance of natural monopolies of organization, which embrace the chief transportation businesses of the country, can hardly be exaggerated. Upon them all other businesses are vitally dependent, and this dependence increases rather than decreases as production becomes more concentrated and the division of labor is made more minute. Finally, the capitalistic monopolies and the labor monopolies, which are among the latest fruits of the country's industrial development, merit all of the attention that has

Importance of Monopolies.

been accorded to them. If these various monopolies were quite unhampered in their control over the prices of the goods they produce the present might well be styled the age of monopoly rather than the age of competition, but fortunately control over prices is rarely unhampered.

Limitations on Monopoly Power.

§ 120. The most important limitations on the power of a monopolist to regulate prices are three: (1) the possibility open to buyers of substituting other goods for those which are monopolized, (2) the possibility of competition which may deprive the monopoly of its control over the supply, (3) the possibility of legal interference. Taken together these three limitations confine the price-making power of monopolies within rather narrow limits and explain the fact that their practical operation is so much less harmful to the interests of consumers than contemplation of the nature of monopoly would lead one to expect.

Power of Substitution.

The limitation imposed by the power of substitution depends upon the range of substitute goods open to buyers. A few examples will make this clear. Suppose that the monopolized good is a particular kind of wine. Substitutes for it are all other kinds of wine, all other kinds of liquors, even all other kinds of comforts and luxuries so far as wine itself is in this category. An attempt to increase the price would under such circumstances greatly reduce the amount of wine of the particular brand that could be sold. Unless it had especially endeared itself to the palates of consumers, a comparatively small increase in its price would spoil its market. The attempt to double the price might even divert the entire demand to other goods. In such a case the effort to win more than a small margin of monopoly profit from consumers would be fatal to the interests of the monopolist.

Again, suppose matches to be the monopolized product. The customary price of matches is now so low as to encourage their general use, and they are now looked upon by every one as a necessary. Moreover, substitutes for matches are quite unsatisfactory. The range for substitution is so narrow in this case that the monopolist may make considerable changes in the price without seriously affecting the demand. Under such circumstances the conditions as regards the possibility of

substitution are peculiarly favorable to monopoly profit. Fortunately for consumers they are less favorable as regards the possibility of competition.

Take, finally, the case of a railroad which furnishes the only available outlet to the market for a given district. Its rate-making is not controlled by competition in the ordinary sense, but its patrons have always the alternative of not prosecuting the industries whose products must be shipped to the distant market. Their power of substitution is that between producing for rail shipment and devoting their land, labor and capital to other production. In practice this is a very important limitation, since the economical administration of a railroad demands a large volume of traffic, and a road cannot afford to make its rates so high that only a few trains will be run over its costly roadbed each day. At the same time in many localities this limitation is not sufficient to insure reasonable rates, and legal interference has been found necessary to protect the interests of the public.

Competition.

The possibility of exciting competition and losing control of the supply is an ever-present danger to capitalistic monopolies and in less degree to personal and natural monopolies of organization. This has been illustrated over and over again in connection with trusts in the United States. An example is furnished by the history of the sugar trust. "In 1887 the Trust was formed. The margin of profit was immediately raised more than half a cent a pound, at times even fully one cent a pound. . . . The margin fell again in the latter part of 1889. This was owing to the fact that large competing refineries, especially those built by Claus Spreckels at Philadelphia, had entered the field. For rather more than two years, while this vigorous competition continued, the margin fell back to a point substantially as low as had existed before the formation of the Trust. In February, 1892, the Trust bought up the competing refineries and the margin was at once put back to the non-competitive height. From the years 1892 to 1898 the margin remained, relatively speaking, high. . . . In the latter part of 1898 vigorous competition against the American Sugar Refining Company (the reorganized Trust) began on the part of Arbuckle Brothers, Claus Doscher

and others."* Similar examples might be cited from the histories of combinations in other industries showing that competition is an ever-present possibility that has to be reckoned with by the managers of capitalistic monopolies.

That the possibility of competition is a limitation on the monopoly of the village blacksmith, the village grocer, etc., is too obvious to require discussion. So long as these business men keep their charges down to fair wages-of-management for themselves their monopoly of these businesses may be undisturbed. Let them increase their charges, however, or let the village grow until there is employment enough for two in these lines, and a competitor is sure to appear. This does not mean that such men may not enjoy monopoly profits from their situation, but that they must be cautious in increasing their charges at the risk of losing their monopolies.

Natural monopolies based on the law of diminishing expense are subject to the same check. For example, in the railway business, while it is true as a general statement that one company can carry freight and passengers between two points more cheaply than could two companies dividing the traffic between them, it is also true that the difference is not so great that unduly high rates charged by the first company will not induce capitalists to construct a parallel road to compete for the business. Such competition is frequently uneconomical from the social point of view, but the history of railroad building in the United States is full of evidence to show that it frequently springs up and acts as a limitation on monopoly.

Legal Interference.

The last limitation referred to, that is, the possibility of government interference, applies especially to natural and capitalistic monopolies. In the case of the former it is coming to be recognized more and more fully that competition cannot be relied upon to regulate the businesses affected and that government interference or government regulation is the only alternative. How far this conviction has found expression in law is considered in Chapter XXIV. in connection with the discussion of efforts to regulate railroads in the United States. Government interference with capitalistic monopolies

* Jenks, *The Trust Problem*, pp. 136-138.

or trusts has been attempted also in the United States through the so-called anti-trust acts considered in Chapter XXV.

Summing up these considerations in reference to limitations on monopoly, we may conclude that the possibility that other goods may be substituted for the monopolized product applies to all monopolies, but with a force varying in each case with the range of substitutions open to consumers. The possibility of competition threatens all except personal monopolies of ability, legal monopolies and natural monopolies of location. Legal interference, finally, has actually been applied to natural and capitalistic monopolies. These three limitations serve as effectual checks on the reckless exercise of monopoly power. Only when the range of substitutions open to consumers is narrow and the obstacles which competitors must overcome, in order to enter the field, formidable, does monopoly present a serious problem or is legal interference necessary. **Conclusion.**

§ 121. Monopolists, so far as they are free to obey the dictates of self-interest, tend to fix those prices for their products which will yield the largest monopoly profits. Just what this means may be made to appear from a simple illustration. **Law of Monopoly Price.**

Consider the case of a patented article in general use, like a special brand of soap. As a rule the expense of producing such an article diminishes as the number of units produced increases. On the other hand, in accordance with the familiar law of demand, as the number of units offered for sale is increased the price that can be secured for each unit decreases. Suppose that the volume of sales at different prices, the expense of production per unit for these different quantities sold and the monopoly profits received are as represented in the table on the following page. It is clear from a study of this table that, on the conditions assumed, the price that affords the maximum monopoly profit will be somewhere between nine and ten cents. Until the price, ten cents, is reached the larger volume of sales and diminishing expense per unit more than counterbalance the loss due to lowering the price. Below nine cents the loss in price is no longer offset by these other factors, although they continue to operate, and consequently profits decline. As this table indicates

monopoly price does not necessarily mean extravagantly high price. In this example the price most advantageous to the monopolist is about double the expense of production. In actual practice the margin of monopoly profit is apt to be even smaller than this except for goods the demand for which is quite inelastic. The table follows:

Price	No. of Cakes Sold	Gross Receipts	Expense per Cake	Gross Expenses	Profits
50c	100,000	$ 50,000	12c	$ 12,000	$ 38,000
40	130,000	52,000	11	14,300	37,700
30	200,000	60,000	10	20,000	40,000
25	400,000	100,000	8	32,000	68,000
20	600,000	120,000	7	42,000	78,000
15	1,000,000	150,000	6	60,000	90,000
10	2,500,000	250,000	5	125,000	125,000
9	3,000,000	270,000	$4\frac{5}{6}$	145,000	125,000
8	3,500,000	280,000	$4\frac{5}{7}$	165,000	115,000
7	4,000,000	280,000	$4\frac{5}{8}$	185,000	95,000
6	6,000,000	360,000	$4\frac{1}{2}$	270,000	90,000
5	10,000,000	500,000	$4\frac{3}{8}$	437,500	62,500
$4\frac{1}{4}$	14,000,000	595,000	$4\frac{1}{4}$	595,000	.....

When a monopolist enjoys exclusive control of the monopolized good, he may fix the price at the point affording the maximum profit without fear of exciting competition. But few monopolists are so fortunately situated as this implies. Competition, even though not in active operation, is an ever-present possibility with which most monopolists must reckon. Prudence dictates usually a more conservative policy in reference to prices than that which would secure for the time being the largest monopoly profits. In the assumed case the price of soap is likely to be fixed at something less than nine cents, in the expectation that the present loss in profits will be more than made good by the protection of the monopoly from future competition that it insures. In the same way fear of governmental regulation often checks the rapacity of monopolists long before such regulation is actually undertaken. The law of monopoly price thus indicates the extreme limit to which monopolists are likely to go in fixing prices and not necessarily the price that they will actually charge under the practical limitations which control their conduct.

§ 122. In the case of many monopolized products, as has been pointed out by Professor Ely,* there are different strata of demand each controlled by somewhat different considerations. This also may be illustrated by reference to the demand for such a commodity as soap. Many consumers would prefer to pay fifty cents a cake for soap if they believed that by so doing they were getting a better article than their neighbors. Taking advantage of this fact, the shrewd monopolist of a particular brand of soap offers several different grades for sale at different prices. That intended for the mass of consumers is put out under the firm name simply, at the price —ten cents, say—calculated to afford the maximum monopoly return. Along with this is offered at a higher price—say, twenty-five cents—the same article, colored a little differently or pressed into a different shape, which is designated " superior." A dash of inexpensive scent and a more elaborate wrapper transforms " superior " soap into " superfine " and insures a limited sale at fifty cents a cake. In this way not only is a larger margin of profit secured on the supposedly better grades, but consumers are reached who would never think of buying plain, ordinary soap for the very reasons that recommend it to less fastidious people. Complications.

The practice of offering substantially the same goods at different prices is by no means confined to manufacturers of patented toilet articles. It is found in connection with nearly every kind of commodity that figures in personal consumption. Makers of bicycles and automobiles, manufacturers of patented foods and beverages, fashionable tailors and haberdashers and many others recognize the opportunity for profit along this line, and conduct their businesses accordingly. The resulting complication in the theory of monopoly price is easily understood from what has already been said. Instead of making calculations in reference to consumers' demand as a whole, the monopolist makes special calculations in regard to the extent and the intensity of the demand of each class of consumers. He offers the " superfine " grade of his product at a price commensurate with the adjective used to designate it. The " superior " article is put on the market at a price calculated

* *Monopolies and Trusts*, Chapter III.

to attract the comfortable middle class, which appreciates quality but is not prepared to disregard altogether considerations of expense. Finally, a price is made for the simple article which will commend it to the rank and file of consumers who are comparing it with substitute articles and anxiously considering which is, on the whole, the best for the money.

Summary. The law of monopoly price may be summed up in the maxim, ask that price which is calculated to yield in the long run the maximum monopoly profit. To decide what this price is in any given instance, the monopolist must gage the extent and intensity of consumers' demand both as a whole and as manifested by different classes of consumers. He must then calculate his own expenses of production for different quantities of the monopolized good. His first concern will be usually to put out the standard grade of the commodity he produces at a price that will afford the largest monopoly profit. This may be a high price, but if the demand is elastic it is more likely to be moderate or even low, especially if the expenses of production per unit diminish as the volume produced is increased. Having fixed the price for the standard grade, the monopolist will consider whether it would not be profitable to offer superior, superfine or other grades to particular classes of consumers at higher prices. In connection with each grade he must make a calculation similar to that originally made, and he must also consider how the sales of these superior grades will react on the sales of the good of standard quality. Whether he will put out special grades and how many he will put out will depend upon the special character of the demand for his product.

Methods of Concealing Monopoly Profits. § 123. Monopoly profits have never been looked upon with favor in the United States. Even the suspicion that they were being enjoyed has sufficed often to disturb the conditions which made them possible, either because consumers have combined to boycott the monopolized good or because the government has interfered. Under such circumstances it has been but natural for monopolists to devise numerous expedients for concealing their real earnings.

For personal monopolies, to deceive the public as to the

profitableness of business activity is an easy matter, but it is less so for corporations with monopoly powers. However secretive corporations may be in regard to their methods of doing business, they are compelled, on sharing their earnings among their stockholders, to disclose the amount of these earnings to a number of persons. The stock of a small corporation may be so narrowly held that secrecy even in reference to dividends is possible, but this is rarely the case with large corporations. The latter can conceal their profits only by distributing them in other forms than dividends to stockholders, or by inflating their capitalization so that large dividends may be paid without exceeding a moderate rate of return on the nominal capital. A few words may be said about each of these methods.

Inflated Salaries and Other Expenses.

Directors may expend surplus earnings for additional equipment, patents or other property at greatly inflated valuations. By this means monopoly earnings are diverted to the owners of the properties purchased, who may be the directors themselves or their friends. This method may conceal the monopoly profits even from the stockholders, who continue to receive only moderate dividends. Somewhat similar, and even more common, is the practice of dividing monopoly profits among the higher officials of the monopolistic corporation in the form of large salaries. It is a familiar fact that monopolies are good employers. They frequently pay wages above the competitive rates even to their ordinary workmen. To some extent, and perhaps fully as regards the lower grades of labor, this policy is justified by the better service that it secures. It is not, however, confined to the ordinary grades of labor, but applies in extreme form to salaried officials. These men are in a position to bring influences to bear on boards of directors to have their salaries increased to much more than they could hope to earn if they were engaged in competitive industries. Sometimes they are themselves large stockholders in the enterprises which they manage; at others their knowledge of the business may be valuable to the corporation because they are in possession of secrets which it would be highly disadvantageous to have made public. To insure their continued loyalty to the interests of the monopoly they must be

well paid for their services. On these and other grounds monopoly profits are often hidden in salaries much above what enterprisers directing competitive businesses could afford to pay for similar grades of service.

Stock Watering.

The most common expedient of all for concealing profits is the practice of inflating the capitalization of the corporation. Where a business is organized by shrewd men who foresee its monopolistic possibilities, it is usual to start with a grossly inflated capitalization. In the railway business, for example, it has not been unusual to secure all of the capital required by the sale of bonds and to distribute the stock as a pure bonus. Industrial combinations as organized in the United States accomplish the same result by putting out preferred stock equivalent to the actual capital invested in the business and an equal or even larger amount of common stock as a bonus. In these and other ways the nominal capital of an enterprise may be made, from the first, two, three or even five or ten times the amount actually invested in it. Such an arrangement permits directors to distribute very large profits as dividends on the nominal capital without exceeding the ordinary rate of interest.

It often happens, even when large monopoly earnings are anticipated, that the nominal capitalization is not made large enough to conceal them. In such cases, and in the more usual cases in which actual and nominal capitalization start together, the practice of " watering " stock to conceal excessive earnings is frequently resorted to. This consists simply in issuing new stock for which no equivalent investment is required. It may be accomplished by means of a stock dividend, each shareholder being given an amount of new stock proportional to his original holding; or by the issue of new stock for subscription at a nominal price, subscriptions being open only to shareholders, directors or other favored investors. By these means the nominal capitalization may be expanded to keep pace with earnings and to permit their distribution without any apparent increase in the dividend rate.

The above ways of concealing monopoly profits have been resorted to so generally by monopolistic corporations in the United States that the casual reader of the reports of some

of the most successful of these enterprises would never suspect that their earnings were larger than those of competitive businesses. To show that they are so in fact requires a full knowledge of the operations of such corporations from the time they were first organized. In most cases such knowledge is confined to those most interested to keep it secret and in consequence it is rarely possible for an impartial investigator to determine what part of the earnings of a monopolistic enterprise represents a fair interest on the capital actually invested in it and what part monopoly profit.

Funded Incomes.

§ 124. One consequence of the policy of concealing profits is that the business community no longer regards nominal capitalization as a fair criterion of capital value. It is so habituated to the practice of adjusting capitalization to earning power that it readily accepts the latter as the real test of what the capital ought to be. Thus a business which earns $80,000 a year over and above its expenses of operation, when the rate of interest on investments involving similar risks is 8 per cent, is taken to be worth $1,000,000, without much reference to the tangible capital invested in it. If the business is organized as a corporation with 10,000 shares of capital stock the shares will be quoted at $100. This procedure may be described as *capitalizing income*. Income which is thus capitalized is sometimes spoken of as *funded income* to distinguish is from simple interest on capital invested in competitive industries. The monopoly profits of monopolistic corporations are one, but by no means the only, type of funded income.

Earned *v.* Unearned Incomes.

The practice of capitalizing income or of putting valuations on monopolistic and other sources of income in proportion to the returns which they afford, gives rise to vested interests in the established order. "Innocent investors" buy shares of stock in monopolistic corporations, paying for them prices proportioned to the monopoly earnings that are being realized, and then claim the protection of the government against reformers who characterize monopoly profits as *unearned* and advocate their confiscation. The advantage of this kind of support to promoters of monopolistic undertakings is so obvious that they not infrequently, especially in connection with local monopolies, make special efforts to insure the wide dis-

tribution of the stock of their companies in the localities to be exploited. If persons of light and leading in such places can be persuaded to become stockholders the likelihood of government interference as profits grow is greatly lessened. In time innocent investors may come to control entirely corporations of this character through the silent withdrawal of the original promoters to other fields. Under such circumstances the claim that the monopoly profits are no more than a fair return on their *bona fide* investments may be advanced by the stockholders with much force. Most of the older natural monopolies in the United States have already reached this stage. Any proposal to curtail their monopoly earnings by fixing the prices they may ask for their services or by requiring from them extraordinary contributions to the support of the state is met by the objection that they pay no larger returns to those interested than competitive businesses, and should therefore be no more subject to government control or taxation than the latter. How serious an obstacle this argument opposes to efforts to secure for the general public a share of the benefits of monopoly is familiar to every one who follows current discussions of the monopoly problem.

Monopolies Not Always Disadvantageous.

§ 125. There is a widespread impression in the United States that monopolies are always and unalterably opposed to the public interest. This is based partly on experience of the bad phases of monopoly and partly on the teachings of jurists and economists. American courts uniformly declare monopoly, except that created by the government itself in the exercise of its constitutional powers, illegal. Economists are equally prone to characterize monopoly as abnormal and to extol an industrial system of free, all-sided competition as that best calculated to promote the general interest. There is, of course, good reason for this distrust of monopoly, but if the analysis we have given of the different kinds of monopolies and of the restraints under which they exercise their powers is accurate, it ought not to be extended to all without qualification. For some industries monopoly is not only as normal and inevitable as is competition for other industries, but it is the form of organization that best serves the public interest. Natural monopolies of organization, for example,

are monopolies because as such they can produce more economically than could competing firms. For them the monopoly form of organization is the desirable form, which should be encouraged rather than discouraged by those who have the public interest at heart.

Another misapprehension that is current is that monopoly always means large monopoly profits. That this is not the case is evident when it is remembered how many patented articles, in connection with which the government itself undertakes to protect the producer in his monopoly, are regularly produced at a loss. Many other conditions in addition to control over the supply of the good produced are necessary to make production profitable. When all the conditions are favorable, large monopoly profits, of course, may be and often are secured. But the power that consumers possess of substituting other goods for those monopolized and the danger that competition will be excited are ever present forces which confine monopoly profits in most businesses within narrow limits.

Influence of Monopoly Profits on Other Shares.

§ 126. In this treatise monopoly profits are discussed independently of the other shares in distribution, not because they are considered unusual, but because it is easier to trace their influence when they are studied in isolation. In actual industrial society competitive and monopolistic enterprises are carried on side by side and act and react upon one another. The influence of monopoly profits on the other shares in distribution should be briefly indicated before we turn to a discussion of the competitive shares of income—rent, wages and interest—treated in the following chapters. To secure monopoly profits monopolists must fix the prices of their goods above their expenses of production. In the example given in an earlier section the largest monopoly profit was secured when a price between nine and ten cents was fixed for the patented soap. The expenses of production for the 2,500,000 cakes that could be sold at ten cents averaged only five cents, so that the effect of the monopoly was to make the price nearly double what it would have been had competition had free play. To maintain the price at ten cents the monopolist must, of course, limit production to the 2,500,000 cakes which the public

will take at that figure. If competition forced him to lower the price to six cents he could produce and sell, according to the conditions of the illustration, 6,000,000 cakes. At the price corresponding exactly to the expenses of production, four and one-quarter cents, he could sell more than double this product. The effect of monopoly is, accordingly, to reduce the amount of the monopolized good that is produced and sold below what it would be under conditions of free, all-sided competition. Only through such reduction or curtailment of the supply can the coveted monopoly profit be secured. But reducing the output of the monopolized good involves the employment by the monopolistic enterprise of less land, labor and capital than would be needed in the same branch of production if competition had free play. The effect of monopoly is thus to increase the supplies of the factors of production which must find employment in competitive industries. What influence this mal-distribution of the factors of production is likely to have on the shares of income, rent, wages and interest, can only be explained after we have considered how these shares are determined. Such influence is of course supplementary to the tax on all consumers who buy monopolized products, resulting from the enhancement of their prices.

Practical Phases of Monopoly Problem Treated in Later Chapters.

The phases of the monopoly problem that have assumed greatest importance in the United States concern legal and natural monopolies, trusts and labor monopolies, and these are treated at some length in later chapters (XXIII., XXIV., XXV. and XXIX.). In them the reader will find many concrete details and illustrations which, out of consideration for space, have been omitted from the preceding sections.

REFERENCES FOR COLLATERAL READING

**Marshall,* Principles of Economics, Book V., Chap. XIV.; **Ely,* Monopolies and Trusts, Chaps. I.-IV.; *Bullock,* Introduction to the Study of Economics, Chap. XI.; *Fetter,* Principles of Economics, Chap. XXXIII.; **Taussig,* Principles of Economics, Chap. XLV.

CHAPTER XIV

DISTRIBUTION: RENT

Contrast Between Profits and Other Shares.

§ 127. In the preceding chapters the more or less irregular and uncertain shares in distribution have been discussed. Competitive profits rise and fall and for enterprisers as a whole, except in periods of industrial expansion, are as likely to take the form of losses as of gains.* Monopoly profits are more stable and in the aggregate constitute an important part of the community's income, but the conditions upon which monopoly depends are subject to change; the tastes of consumers may be modified or substitute articles may be put upon the market; new methods of production may be devised which deprive the monopoly of its advantage, or the strong arm of the law may be interposed to divert monopoly profit to the public either by the forcible lowering of prices or through taxation. In these and other ways monopoly profits may be reduced or entirely cut off before they have been enjoyed for any long term of years. In contrast with profits, the elements entering into the normal expenses of production —rent, wages and interest—are regular and persistent. Their payment is not due to the absence of competition, but is the direct consequence of the activity of competitive forces. The keener and more general competition is the more certain and definite these shares become. For this reason in explaining them it will be convenient to revert often to the relations that would prevail in an industrial society brought to the state of normal equilibrium. In such a society the relations which

* The German economist, von Thünen, advanced the theory that competitive profits must in the long run be on the positive side, because enterprisers take great risks, and must be compensated for so doing. This depends, obviously, upon whether taking risks in the industrial society under consideration is distasteful. In the United States there are so many people who really like to take risks that compensation for risk-taking is a small, if not a negligible, element in profits.

economic forces tend to establish in the actual industrial world are sharply defined and may be easily apprehended.

Definition of Rent.

§ 128. *Rent is the term given in economics to the share of income that is assigned or paid to owners of land, sources of water power and other gifts of nature which assist production, for the use of these factors.* When the factor is used by the owner himself, rent is a part of the gross return that he realizes from his year's business and is, economically, as distinct from his other income as it would have been had he leased the factor at a stipulated rental from some other owner.

Problems Connected with Rent.

A complete study of rent involves two distinct lines of inquiry. First, it must be explained why rent is paid and what determines its amount. These are purely scientific questions. Secondly, it must be considered whether the present system of allowing the earnings of land and other gifts of nature to go to the individuals whom the law recognizes as their owners is socially defensible. This also is a scientific question, but its answer depends upon moral, political and social considerations which are still matters of dispute even among the most intelligent and best-intentioned. In this chapter attention is confined to the *explanation* of rent.

The Source of Rent.

§ 129. The source of rent has already been indicated in Chapter VIII. It was there shown that land and natural powers assist production unequally in different situations and that rent is what enterprisers pay for the use of superior land and sources of power to equalize conditions.

The Principal Grades of Land Distinguished.

In a country like the United States land is divided up into hundreds of different grades to be applied to as many different productive uses. To simplify the explanation we will assume that these different uses of land may be included under five heads as follows: Grade A, Sites for City Stores; Grade B, Sites for City Residences; Grade C, Truck-farming Plots; Grade D, Wheat Land; Grade E, Grazing Land. The relation among these different grades of land may be represented without great inaccuracy as that between the areas inclosed between concentric circles, as in Figure 8.

Store Sites.

At the center, A, is the land devoted to store sites, which is economically the most important use. For purposes of

trade central situations must be selected. These are also desirable for residence purposes, but inasmuch as a residence site serves but one family, while a store site serves many families of customers, the store use triumphs.

Next to the store sites in a city are residence sites, B, which, other things being equal, are desirable in proportion to their nearness to the business centers. Many lots are just on the borderland between these two uses. It is just worth while for

Residence Sites.

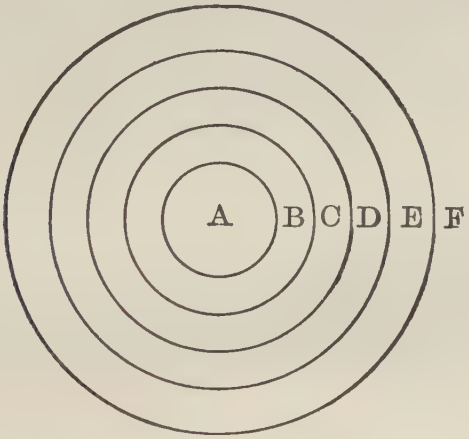

FIG. 8.

storekeepers to pay a little higher rent for them than they command as residence sites, or not quite worth while.

Beyond the residence sites are plots devoted to truck-farming, C. In every city the line is somewhat roughly drawn between these two grades, and some land is found in a transition stage which may be had for truck-farming at a very moderate rental on condition that the lease shall be terminable at the will of the owner. Lots in this situation are the borderlands between grades B and C.

Plots Devoted to Truck Farming.

All land good enough and near enough to a market to be used for truck-farming might be used for the cultivation of some staple crop, like wheat. That it is not is proof that truck-farming causes it to yield a higher rent than would wheat-farming. Trucking is economically a more important use, chiefly because green vegetables will not stand distant trans-

Farm Land Proper.

portation as will wheat and other staples. On the outer circumference of the belt of land devoted to truck-farming will be found acres which it does not quite pay to use for this purpose and which are cultivated extensively for some staple crop. These are the borderlands between grades C and D.

Grazing Land.

The transition from arable farming to grazing occurs similarly at the outer circumference of the lands devoted to the growing of wheat. Land too remote or too poor to be sowed with a wheat crop is yet well adapted to the grazing industry and may afford a moderate rental in comparison with the land still more remote and still poorer which it barely pays to devote even to this economically least important industry. Beyond this last land at the outer circumference of the grazing belt is still more land, F, that in the country's present stage of industrial development is economically useless and therefore valueless. Under the Homestead Acts lands of this grade may be had almost free of charge from the government. Practically speaking, it is no-rent land, and so long as any considerable amount of it remains open to settlers it furnishes a no-rent margin from which all rent is calculated in the manner described below.

Fertility as Important as Situation to Rent.

In this classification more attention has been given to situation than to fertility or other qualities as a guide to grading lands, because it is the phase of the subject most apt to be neglected. The reader scarcely needs to be reminded that the other qualities enumerated in Chapter VIII. are quite as potent factors as situation in determining where a piece of land belongs in the economic scale. In the case of lands whose products are of high value in proportion to their bulk, situation counts for little in comparison with the richness of the source of supply. This is illustrated by the fact that the gold resources of the Klondike are being exploited nearly as rapidly, notwithstanding the remoteness of the region, as those of Cripple Creek.

The Demand for Land of Different Grades.

§ 130. To the successive grades of land that have just been described the reader must oppose in his imagination the market for the goods which land and the other factors of production unite to produce. First comes the demand for lots for business purposes. Enterprisers appreciate the importance of location

as a condition to business success. The best sites are eagerly taken and, as the community grows, new lots are each year withdrawn from their old use as residence sites because business men are willing to pay a little more rent for them. Improvements on the land interfere somewhat with the free play of this tendency, but even the most substantial buildings decay in time and if a broad view be taken there will be found enough plots to pass each year from use as residence sites to use as store sites to maintain a practical equilibrium. Different kinds of businesses, railway transportation, wholesale and retail trade, banking, etc., require lots in different situations, and all such differences have their influence on rents. We shall not be far wrong, however, in assuming that business men require centrally located lots, the lots embraced in the inner circle, A, in the figure. In deciding what rent he can afford to pay for a given store site, the enterpriser never thinks of comparing it with farming land on the outskirts of the city. He knows that unless he establishes himself within a limited area he might as well not go into business. To him marginal lots are not those on the outskirts of civilization which he could get for nothing, nor even those on the outskirts of the town whose rent is low, but the choice residence lots on the border between grades A and B, for which he must pay a high rent because of the demand for them for residences. To this marginal rent, which all enterprisers must pay for lots in A, is added a differential rent for the better lots corresponding to their superiority. The choicest lot of all yields the highest rent, and this is what it adds to the returns of a representative firm for a given outlay in wages and interest in that line of business which depends most on situation for its success, retail trade. The practical determination of this rent is a matter of considerable difficulty, and it is doubtful if the exact competitive rent is ever paid for such a piece of land. Something approximating this amount is paid, however, or is charged to the account of rent by the enterpriser who owns the site on which his business is located. From this maximum the rents of inferior lots decrease to the marginal rents which those on the border command. In each case rent figures as one of the expenses of production which

the practical business man counts on recovering in the price.

The Calculation of Rent.

The determination of the rents of residence lots is effected in exactly the same way. From the highest rent of the best lot, which corresponds to the lowest rent for a lot of grade A land, to the highest rent truck-farmers are willing to pay for border lots between B and C, there is the same gradual descent, influenced in this case by calculations of utility rather than of business returns. To the extent that personal considerations weigh more in the choice of house-sites than in the choice of business locations, these calculations of utility are variable, but when we are considering the thousands of people of each social class that make up a city population these personal eccentricities neutralize one another and may be disregarded. For those who reside in cities as well as those who do business there the choice is not between rent and no-rent, but between high rent and marginal rent. Lots to be had for nothing are so far away from the places where city dwellers earn their livelihoods that they are worth to them considerably less than nothing.

The rent paid by the truck-farmer, or credited by him to his land of grade C, obeys the same principles that have been outlined. According to the situation, fertility, etc., of the land it pays a rent ranging between that which the best truck land affords, the marginal rent for grade B, and the rent which must be paid for the borderland between C and D to keep it from the wheat farmer, or more accurately which as wheat land it would afford. Similarly the wheat farmer pays a marginal rent to cover what the poorest wheat land would be worth for grazing purposes. The grazier himself is surrounded by land of a still lower grade, F, which is still in the category of free goods. This margin is accordingly a no-rent margin and the price of his product need under normal conditions merely cover the expense for wages and interest on the poorest land on which cattle, sheep and horses are raised.

Summary of Explanation.

Summing up this explanation, we may say that rent is paid out of the prices which the "products of the soil" command. The supply of land of each grade, except the lowest, being

limited, users of land bid against one another for different plots. This competition causes land to be graded in accordance with its economic importance. The rents paid for lots above the lowest grade include a differential element measuring the superiority of the land in its grade and a marginal element common to all land of the grade. Only grazing land, or land at the bottom of the economic scale, commands a rent consisting only of the differential element. It comes into direct comparison with free or no-rent land and the small rent it affords measures the narrow margin that separates the value of its products from the free goods which may be obtained gratuitously through the use of free land.

Other Causes of Rent.

§ 131. In the above explanation of rent attention has been confined almost exclusively to land in the narrow sense. The rent earned by sources of water power and by mines is determined in a similar way, but deserves separate consideration.

The Rent of Sources of Water Power.

The utilization of water power involves usually a considerable outlay of capital, and hence the marginal powers used must afford a large return for interest on the capital invested even though they yield no rent. In connection with the use of water power situation is also an important factor. It is profitable to use the power of Niagara because it is surrounded by a rich agricultural and manufacturing country. Much cheaper sources of power are not yet utilized west of the Mississippi because other conditions are not favorable to the development of industries to which the power might be applied. From the marginal source of power in use, which affords no rent, the rents of superior or more favorably located sources of power are calculated by the familiar comparative method. Ordinarily water power is utilized by the enterpriser who owns it, and hence its rent appears only as an item in his private bookkeeping. Competing with water power are steam power, horse power, etc. The price at which any substitute power can be obtained for the performance of a given industrial task constitutes a maximum above which the rent of water power cannot for any length of time be maintained.

The Rent of Mines.

The rent of mines is determined in the same way as the rent of land, except that the marginal mine is not necessarily one which affords no rent. Since a mine will not renew itself,

but by each year's operations is depleted of so much of its ore, the rational owner hesitates to work his mine when it barely pays expenses. The ore is a valuable asset, and the owner is short-sighted who takes it out to sell at cost. In practice this consideration is not very important. Mining is so uncertain that in nearly every branch of the industry mines are operated at cost or even at a loss by men who hope that the ore will get richer with depth or that the price of the mineral will advance. As a matter of fact, therefore, it is usually possible to find no-rent mines producing each variety of mineral that comes out of the earth. The rent of better mines is measured up from them as a no-rent margin. When mines are operated under lease the rent is usually calculated as a royalty proportioned to the amount of ore actually removed from the ground. Under this system when mines are operated literally at cost in wages and interest, the royalty represents an actual loss to the operator. This is usually an effectual bar to the operation of no-rent mines by other enterprisers than those who own them, but since the lease system is exceptional rather than the rule, this does not prevent the presence of no-rent mines in nearly every branch of the mining industry.

Apparent Exceptions to the Law of Rent.

§ 132. Thus far in the explanation of rent, we have spoken of land as though it were perfectly graded from best to poorest, and have implied that the location of a given piece of land in the particular grade to which it belongs is a simple matter. There are several well-known facts in regard to land, sources of water power and mines which are inconsistent with these assumptions, and we must now consider whether these facts invalidate the explanation of rent which has been given.

Existence of Several No-rent Margins.

(1) There is not merely one use to which land is applied down to a no-rent margin, but several uses. In the United States some wheat is probably raised regularly on no-rent land and a good deal of corn is so produced. In these cases the rents of better wheat and corn lands are measured from the no-rent margin just as are those of the better grazing lands. Instead of having one no-rent margin we have several, but their collective influence on rent is no different from that traced to a single one.

The Rotation of Crops.

(2) In farming in the United States the tendency is more and more toward the diversification of crops. No one crop is raised continuously, but different crops are raised in rotation, and the productiveness of the land depends not upon its yield of wheat or corn or cotton alone, but upon its yield of all of the different crops grown over a series of years. Although this greatly complicates the rent problem it does not change the principles upon which rent depends. The tendency is still to devote each piece of land to the use for which it is economically best adapted. If this is diversified farming, then the average return in the different crops in the rotation for a series of years must be calculated and made the basis for comparing it with other pieces of land. Through the indirect process described it will be compared finally with no-rent land on the margin, and the surplus return it affords in comparison with no-rent land will be its rent.

Average Return Basis for Calculating Rent.

(3) No piece of land yields exactly the same return, even though cultivated in just the same way, two years together. The weather is a capricious partner upon which every farmer depends, and as a result of weather changes large crops are sometimes followed by small crops in spite of everything the farmer can do. These variations affect rent only by making it less a matter of exact calculation and more a matter of approximate estimate. Uncertain as is the outcome of each year's farming, the average return for a series of years may be foretold with a good deal of accuracy. It is these averages that should be and are considered in calculating the rent properly ascribable to a piece of land.

Land fit for One Use Only May Command High Rent.

(4) Some pieces of land, such as the barren rock of particular lots in New York City, are well adapted to one purpose, but unsuited to any other. Yet the absence of possible substitute uses does not prevent such pieces from commanding often very high rents. This is no real exception to the theory as explained. The primary cause of rent is the demand for land for the various uses to which it is put. If the possible uses are arranged in a scale in the order of their importance, then the best land for the purpose will be assigned to use A down to the point where a given piece is even better adapted economically—will yield a larger return—in use B. The exist-

ence of some pieces admirably suited for use A which will not serve use B or any other use simply lessens the requirements for land for use A that will serve use B. The result is that somewhat better land will be available for use B than would otherwise have been the case. Land adapted for one purpose only, if used at all, is of necessity devoted to that purpose and affords a rent depending upon the way in which it compares with marginal land used for the same purpose.

Other Complications.

Space will not permit a discussion of other apparent exceptions to the theory and their explanation must be left to the reader's ingenuity. In an industrial society approaching the state of normal equilibrium competition would assign each piece of land to that particular use for which it was best adapted, and once assigned each piece would continue to be used for the same purpose as long as the state of equilibrium was maintained. In such a situation rent would be so constant that its calculation would be a very simple matter. The rent problem is complex in actual industrial society because pieces of land are constantly being assigned to new uses. New pieces of land are being brought under cultivation or are being improved with buildings, while old pieces of land are being abandoned or the buildings on them are being destroyed. Under these circumstances the calculation of rent can be at best but an approximation, and there is latitude for no little disagreement as to what should be paid for or credited to each piece of land that aids in production. In comparison with the gross amount of rent, however, the sums involved in these possible variations are small and may without serious error be disregarded when the broader problems of economics are under consideration.

Investments of Capital in Land and Rent.

§ 133. The difficulty of distinguishing between land and capital in the form of permanent improvements has already been alluded to. Once made, investments of capital in permanent improvements are merged in the land, and the incomes they afford obey the principles just laid down in reference to rent rather than those about to be explained as applying to interest. For example, consider the return on the investment of capital necessary to clear land and prepare it for the first

time for cultivation. Unless the return promises to be large enough to pay the current rate of interest on the investment it will not ordinarily be made, but after it has been made the cleared land affords an income in no wise controlled by the amount of the investment. All the labor of New England farmers during the seventeenth and eighteenth centuries in clearing their farms of stones and improving them in other ways did not avail to check a rapid fall in the incomes they afforded to their descendants so soon as they came into competition with the better lands of the Mississippi Valley. The abandoned farms of New England bear eloquent testimony to the fact that interest can be continuously secured only for capital that may be withdrawn and reinvested as often as changes in industrial conditions make this desirable. So soon as capital becomes embodied in fixed and unalterable capital goods, the income it affords ceases to obey the principles determining interest and becomes subject to the law of rent. Most improvements, however, are not fixed and unalterable, but wear out and have to be renewed. They require, therefore, a continuous reinvestment of capital, which will only be made on condition that the income secured continues to correspond with the rate of interest to be obtained in other lines of investment. In this indirect way the return on perishable improvements is adjusted to the current rate of interest.

The Capitalization of Rent.

§ 134. The rent of a piece of land, whether actually paid or appearing merely as an item of income in the bookkeeping of the land-owner, has a determining influence on the price that can be secured for it. As an investment, land is valued, as is any other form of income-producing property, by capitalizing its annual return at the current rate of interest. For example, if a given piece of land is found by experience to bring in on the average a net rent of $1200, and the current rate of interest is 6 per cent, its price will normally be $20,000, or the sum which invested at 6 per cent would yield the same return. If the rent is only $600 the price will be only $10,000. On the other hand, if, in the first case, the rate of interest had been 4 instead of 6 per cent, the price of the land would be $30,000. The price of land thus varies directly with the amount of its rent and inversely with the rate of interest. In

a developing country, like the United States, the probability is so strongly in favor of an increase in rents, especially in the case of city lots, that shrewd investors are willing to accept even less than the current rate of interest from their investments in land. In such cases the present value of a lot may be the capitalized value, not of its present, but of its prospective rent. Land has been on the whole an excellent investment in the United States during the last thirty years, in part because the rent it affords has so generally risen, but quite as much because the rate of interest has fallen and the prices of pieces of land have risen even more than the rents. This last point must always be remembered in connection with the interpretation of statistics showing the growth of wealth. In countries experiencing a declining rate of interest there is an appreciation of land and other permanent sources of income without any corresponding change in the ability of these factors to contribute to general well-being.

Summary of Theory of Rent:

§ 135. In concluding the explanation of rent it may be well to summarize the principal points brought out in this chapter and Chapter VIII.:

Its Cause.

1. Rent is an income which arises in consequence of the superior productivity of land above the margin in comparison with that at the margin.

Includes a Marginal as well as a Differential Element.

2. Marginal land for some of the uses to which land is put is actually no-rent land. More commonly the marginal land for any particular use itself affords a rent because, though marginal for the given use, it is above the margin for some other use to which it might be applied. Rent is thus composed usually of a differential and of a marginal element. The differential element is an expense of production only to enterprisers using superior land for the given purpose, while the marginal element must be paid by all enterprisers engaged in the given branch of production and hence figures as an element in the normal expense of production.

The Intensive Margin.

3. In addition to the *extensive* margin there may be, and usually is, an *intensive* margin, that is, a use of land resulting from an additional investment of labor and capital on it which affords no rent. The intensive margin of cultivation tends always to be a no-rent margin.

4. Rent is measured by the method of differences starting from the no-rent land margin and proceeding from grade to grade until the best and most favorably situated lot for the purpose that is economically most important is reached. In the aggregate it is the money equivalent of the surplus product due to the superiority of the land to which it is credited over the poorest land turned to industrial account at the no-rent margin. **A Surplus Income.**

5. When best land is superabundant, as is the case in some newly discovered and sparsely settled regions, rent does not arise. **When There Is No Rent.**

6. If the law of diminishing returns did not apply to land, it would not arise, as then one piece of land would serve all purposes for an indefinitely large population. **Law of Diminishing Returns.**

7. The income yielded by permanent improvements on land obeys the same law as income ascribable to the land itself. **Permanent Improvements.**

8. The price of a piece of land, together with permanent improvements embodied in it, is calculated by capitalizing its net money rent at the current rate of interest. A falling rate of interest tends, therefore, to enhance the land item in the inventory of a community's wealth. **Rent and Price of Land.**

§ 136. In the foregoing explanation of rent the share of the return that is economically ascribable to land has been referred to, rather than the commercial rent that is in practice paid to landlords. This last is determined to some extent by custom and personal considerations between landlord and tenant and rarely corresponds exactly with the economic rent. In case the commercial rent is less than the economic rent a part of the return is retained by the tenant as a gratuitous addition to his income from the labor and capital he may have invested in his business. On the other hand, if the commercial rent is too high the land owner gets not only what the land is entitled to, but also a part of the return which should go to the land cultivator. In either event the full economic rent is present as a part of the income shared between those who have an interest in the land either as owner or as user. **Commercial Not Always Same as Economic Rent.**

The most familiar mode of determining commercial rent without much regard to economic principles is the so-called *métayer* system. This is the plan by which the cultivator **The Métayer System.**

pays half the produce of the year's husbandry to the land owner, who furnishes sometimes also seeds and tools, and retains only the other half for himself. Cultivating land "on shares" after this fashion has long been the custom in European countries and is common in the Southern States of the United States. It has the disadvantage of not adapting itself readily to changing conditions which involve changes in economic rent, and has therefore been superseded in the more highly developed sections of the country by the system of money rents.

Rent of Buildings and Ground Rent.

In connection with the rent of land improved by the erection of buildings upon it business men are in the habit of lumping together into one sum the rent of the land and the interest on the capital invested in the buildings and calling this "rent." When a distinction is made between the two, the first, or rent proper, is called the ground rent, and the second is called the rent of the building. It would be an aid to clearness if this mode of division were to become universal, but even in its absence an expert appraiser can usually say with a good deal of accuracy how much of the gross rent for a built-over lot is due to the building and how much to the lot itself. Economically the two returns are quite distinct.

Importance of Rent.

§ 137. It would be interesting to know just what part of the income enjoyed by the inhabitants of a country like the United States is properly classified as economic rent, but unfortunately no reliable information on the point is available. Most of the land of the country, most of its sources of water power and most of its mines are operated by owners rather than by lessees. In consequence, calculations in regard to rent are largely matters of private bookkeeping, and are made with the carelessness which business men permit themselves when they come to divide their gross profits into the various items which economic analysis distinguishes. Any statement in regard to rents as a whole must, in the nature of the case, be but a rough guess, except for countries like the United Kingdom, where lands, mines, etc., are commonly operated under lease and the determination of rents is a matter in which two parties are interested.

According to the British income tax returns, the total income from lands in the United Kingdom appears to be about one-tenth of the total income of the country. We have no means of knowing whether the total income ascribable to rent in the United States is more or less in proportion than the total for the United Kingdom. Since the country is newer and its lowest margin of cultivation higher, however, it will perhaps be not far from the truth to estimate the rent income of the inhabitants of the United States at about one-twelfth the total income which they enjoy. The payment each year to private property owners of this large share of the country's income for services rendered not by themselves, but by their property, is a practice vigorously condemned by many intelligent students of economics. The most radical modification in the present system that has been proposed is that advocated by Henry George and his followers under the phrase "the Single Tax." The arguments for and against this proposal, and other plans for solving the land problem, are considered in Chapter XXVIII.

REFERENCES FOR COLLATERAL READING

**Marshall,* Book VI., Chaps. IX. and X.; **Seligman,* Principles of Economics, Chap. XXIV.; **Carver,* Distribution of Wealth, Chap. V.; **Pierson,* Principles of Economics, Part I., Chaps. II. and III.; *Nicholson,* Principles of Political Economy, Book II., Chaps. VIII. and IX.; *J. S. Mill,* Principles of Political Economy, Book II., Chaps. VI.-IX. and XVI.; **Johnson,* Rent in Modern Economic Theory, an Essay in Distribution; **Taussig,* Principles of Economics, Chaps. XLII.-XLIV.

CHAPTER XV

DISTRIBUTION: WAGES

Definition of Wages.

§ 138. *Wages, as the term is used in economics, include all earnings assigned to men for their work, from lowest piece wages to highest annual salaries and "wages-of-management."* The problem of explaining such earnings is more complex than that of explaining rent because it has to do more directly with living men and women. As in the case of rent, it involves an explanation of differences in earning power among different factors in production. In the United States some workers receive as compensation for their work not more than fifty cents a day, while others are paid salaries of $50,000 a year and upwards. Such differences must be accounted for in a theory of wages. In the case of rent an explanation of differences in the shares assigned to different pieces of land is a sufficient explanation of the phenomenon because these differences are measured from marginal land, which affords no rent.* The same is not true in the case of wages. Marginal workmen earn something, and after all differences in earnings have been explained it still remains to account for marginal or least earnings. Another cause of difference between the two problems is that while the land supply of a country is relatively fixed and unalterable, its labor supply or its working population is constantly changing. The continuance year after year of high rents for certain pieces of land and of low rents for others, excites no surprise, but the continuance of differences in wages seems to need special explanation. Why, as generation follows generation, are not all men molded through an evolutionary process to one common type, so that differences in earning power are eliminated? This is a third distinct question presented by the wages problem. The pres-

* The circumstances which determine the location of the margin of cultivation must also be explained, of course. *Cf.* Section 156.

ent chapter is confined to an explanation of differences in rates of wages and of the reasons for the perpetuation of such differences. The explanation of the rate of pay that goes to marginal workmen follows in the next chapter.

Differences in Rates of Wages Due to Unequal Capacities of Workmen.

§ 139. Most differences in rates of wages may be explained in the same way that differences in rent are explained. The demand of consumers calls for the production of certain goods. Enterprisers, taught by the industrial experience of the past, determine how the available productive factors shall be correlated for the purpose of satisfying so far as possible this demand. The organization of industry which results, calls for workers of different capacities for different tasks, just as it calls for different grades of land. These capacities are graded according to their economic importance, which depends, on the one hand, upon the field there is for their exercise and, on the other, upon the number of men possessing them that are available. Having in mind present methods of production and the present working population of the United States, we may distinguish the following five grades of workers: (1) men having superior capacity for planning and carrying out large industrial undertakings, good administrators and talented artists and professional men; (2) men competent to succeed in smaller undertakings or to administer large affairs as subordinates, artists and professional men of average ability and highly skilled mechanics; (3) men trained for ordinary clerical or mechanical labor; (4) men without special training, but having the requisite strength and endurance for manual labor; (5) men lacking some of the mental or physical qualities essential to continuous labor of any kind. This classification is illustrative rather than exhaustive. To be complete it would have to recognize hundreds of different grades of productive capacity instead of five, and to be repeated for each territorial division of the country. It is intended to include only economic men and women, and not the unfortunate dependents who are incapable even of the humblest self-support.

Just as in the land scale the area adapted by situation and other qualities for the most important industrial uses is exceedingly limited, so in the scale of workers the number of

Differences Gaged in Same Way as in Case of Rent.

men fitted for the highest grades of labor is very small. In each branch of production and in each profession in every community some one man is found at the top. Unusual capacity may not be the only cause of the ascendency of such men, but unless it is present they will not be able for any length of time to hold their positions. Below the men of highest capacity for their chosen work are others of inferior ability, down to the marginal men in the group who find it just worth their while to continue to serve in their particular positions rather than to take up alternative employments of what we have called grade two. The earnings of the abler men in the group are determined by the comparisons that are constantly being made between their efficiency and that of the marginal men, who are just induced by their pay to stay where they are and not to turn to other occupations. Superior men receive the pay of the marginal men and in addition a differential corresponding to their superior efficiency.

Relation Among Different Groups.

The earnings of workers in the lower grades are determined in the same way as those of men in grade one. Competition acting through, and also upon, enterprisers, tends to assign to each worker above the margin in grade five, wages made up of both a marginal and a differential element. The marginal element is what the poorest worker in the group could earn in the best-paid alternative employment open to him. Unless this at least is paid, the alternative occupation will be preferred and the scale will have to be readjusted. Here, as in the case of pieces of land, individuals without any power of substitution, but who are proficient in their special tasks in comparison with others doing the same tasks and having such a power, are as well off as though they had it themselves. For example, if of a number of college professors receiving salaries of $4000 a year each, some could earn as much or more in business positions and were hesitating whether to make the change, their power of substitution would serve to prevent any reduction in professors' salaries even though the others were quite unfit for any other kind of high-grade work than that they were doing.

In addition to this marginal element there is a differential element corresponding to the superiority of each worker in

his grade. In practice the determination of this differential element in wages is a complex process except where piece-wages are paid, when it adjusts itself automatically. There is a tendency for whole groups of workmen, especially those organized in trade unions, to demand uniform wages. This policy prevents employers from hiring workers who do not come up to a certain standard of efficiency, but it also prevents superior workmen from receiving the differential wages to which they are economically entitled. In the occupations in which uniform wages for all workmen of each grade prevail, however, the work is usually so simple that individual differences count for relatively little and the differential wages which would result if competition were entirely free are a negligible element.

Tendency Toward One Uniform Rate of Wages.

§ 140. The above analysis implies that the world's workers may be arranged in a gradually descending scale and that there are no breaks separating adjacent individuals and classes. It is assumed that men doing the same kinds of work may be compared readily, so that the differential wages to which they are entitled may be determined; also that the marginal men in each employment are just held where they are by the payment of as high or slightly higher wages than they could earn in alternative employments. While this is true as a general picture, it must be admitted that the step from one employment to that next higher in the scale is often a long one. This is particularly the case with the step from the tasks of unskilled to those of skilled workers and with that from skilled manual workers to brain workers. Instead of saying that there is one scale of workers it would be more accurate to say that there are three different scales. The scale for brain workers begins at the highest point and breaks off not just where the scale for skilled manual workers begins, but somewhat lower. That is to say, the compensation of brain workers of the lower grades, bookkeepers, for example, is no greater than that of manual workers of the higher grades. In the same way the scale for unskilled workmen, which begins low down, runs parallel to the scale for skilled workmen of the lower grades for a time and then continues to the lowest margin. Unskilled workmen of the

Different Grades Overlap.

higher grades earn as high wages as skilled workmen of the lower grades. It follows that the alternatives open to brain workers toward the lower end of the scale are a lower grade of brain work or a comparatively high grade of skilled labor, and those open to skilled workmen of low grade are still inferior skilled or comparatively high-grade unskilled labor.

Some Workmen Below the Margin in Their Group.

It is not always true, as we have assumed, that the least efficient or marginal workers in each group have alternative occupations which maintain the level of their earnings. Just as it frequently happens that men who are superior in their given branch are competent to do nothing else, so it sometimes happens that men competent to do nothing else are at the very margin of efficiency for the work they perform. The earnings of such marginal men are fixed by a comparison of their work with that of abler men in the same branch of production to whom alternative branches are open. The options of the latter fix the return for that class of services to all the workers in their group. In extreme cases, as, for example, in the sweating industries, it sometimes happens that a group of workers competent to do all of the work of a given sort for which there is a demand are competent to do only that kind of work. Under such circumstances competition within the group may reduce wages to a starvation level and keep them there until the demand for the product increases or the number in the group is reduced.

Individual's Efficiency Depends on Right Choice of Occupation.

Free competition, which serves fairly well to assign different pieces of land to the uses for which they are best suited, is much less successful in so assigning different workers. The different qualities which make a man efficient or inefficient (Section 76) are themselves developed by the kind of work which it falls to his lot to perform. Thus unless a man is fortunate in his initial choice of an occupation, he may never have a chance to display his real capacity. All his life he may do uncongenial work ineffectively, when, under more fortunate circumstances, he might in some other field have achieved the highest success.

Full weight must also be given to the fact that, as industrial society is now organized, " pull " is often more important than " push " in helping a man to get on in the world. Com-

petition is fairly effective as a means of eliminating the unfit, but complete equality of opportunity rarely prevails in the selection of those who are to be given a trial. Influence enables some to step without effort into important positions, which others, even better fitted for them, can only rise to, if at all, after long and painful struggle. The differences in the earnings of different workers in actual industrial society are due to these considerations nearly, if not quite, as much as to the more narrowly economic influences made prominent in the preceding analysis. That analysis explains what would be true if equality of opportunity prevailed. To the extent that this ideal is not yet realized—and as to this each reader must decide for himself—the conclusions it suggests must be qualified and corrected before they can be applied to the solution of practical problems.

Unequal Opportunities of Workers.

§ 141. The assumption that the working population of a country like the United States is divided up into a few groups is helpful, but, as already stated, the actual number of groups is legion. In recapitulating the explanation of differences in wages it will be well to describe the labor market with all of its complexities. On one side, then, is the scale of tasks to be performed, determined in part by the demand of consumers for goods and in part by the organization of the productive factors adopted after generations of industrial experiment. On the other, is the working population divided up into hundreds of different groups corresponding to the diverse tasks to be performed. The wages paid to those performing the tasks highest in the economic scale are high. They must be so to keep such men from other tasks they might undertake and also to induce them to serve one employer rather than another in their particular tasks. The former possibility fixes a marginal wage which all men performing the given sort of work must receive. Competition among employers adds to this marginal wage a differential element, measuring roughly the superiority of the better men over those who are just good enough to be retained in their positions. As the scale descends from group to group similar relations are found to prevail at every point. Each man's wages contain a marginal element determined by his own power of

Number of Grades Very Large in Practice.

substitution or by that of some other worker in the same group. If he is superior to the marginal men of his group, his wages will be higher by a differential element roughly gaging his superiority. If inferior, as sometimes happens, his differential will be in the form of a deduction from the wages which more capable men, doing the same sort of work and with the power of substitution, receive.

Higher Wages Measured from Marginal Wages.

At the lower end of the scale marginal wages will be received which are not determined by what is paid in alternative employments because there are none, or at least none in which workers are actually employed. From these lowest wages, which are still to be accounted for, all higher wages are at last analysis measured. They are a minimum to which the differential in the lowest group is added to determine the marginal earnings enjoyed in the next higher group. To this another differential is added in the next higher group to determine the next higher margin, which figures in turn with another differential in determining a third margin. Thus by successive steps, like a flight of stairs broken by frequent landings, the highest earnings of all are finally attained. In this explanation the word, "determine," is used, it should be clearly understood, in a relative sense. The ultimate determinants of wages—the prices consumers are willing to pay for the products of industry, the organization of the productive factors, etc.—are not here under consideration, but only the influences which relate to one another the different rates of wages, from highest to lowest, which constitute the prevailing wage scale.

The Rate of Wages Depends on Relation Between Demand and Supply.

In conclusion it should be emphasized that the earning power of each worker depends on two circumstances neither of which should be lost sight of in a discussion of wages. These are the appreciation in which the goods he helps to produce are held by consumers and the number of workers competent to engage in such production as his competitors. Rare combinations of industrial qualities command high wages if the goods that may be produced through them are in demand, but otherwise not. Even rather common combinations of qualities may command high wages if the field for their exercise is large. The highest earnings go to those who have

unusual qualities for which there is great demand. On the other hand, the lowest go to men who have only ordinary abilities of a sort for which the demand is limited. Great administrators, like railroad presidents, get high salaries because there are many positions to be filled and few men competent to fill them. Sewing women, on the other hand, earn very little because there is little work for them to do in comparison with the number ready to do it. In neither case is the difficulty or ease of the work to be done the chief influence determining the pay which it commands. A multiplication of the men competent to be good railroad presidents would serve to reduce the salaries attached to such positions, even though there was not the least change in the nature of the work required. In the same way, a reduction in the number of sewing women would serve to increase the earnings of those who remained, although they worked no longer or better than formerly.

Differences in Wages Perpetuated by Immobility of Workers.

§ 142. Competition tends to bring the wages of workers having the same industrial qualities to a level within each labor market, just as it serves to cause identical goods within a goods market to sell for the same prices. A labor market is, however, more restricted than a goods market. As Adam Smith long ago remarked, "a man is of all sorts of luggage the most difficult to be transported." The free movement of workers from positions where they are ill paid to positions where they are better paid, which is essential to free competition, is confined within narrow territorial limits. Ties of love, family associations, habit or sheer inertia hold most men to the localities in which they were born, despite the allurements of higher earnings in other places. There is, to be sure, a type of man to whom the attractiveness of new experiences in new surroundings is even greater than that of home, and in countries in which this type is common competition among workers is active over a wide area, with less wide differences in the rates of wages paid to workers of the same efficiency in different regions as its result. But even in the United States, where, according to the census returns, one-fifth of the native born live in other states than those in which they were born, this type is rare, especially among

workmen of the lower grades, and differences in wages among different sections persist for many years. These differences would doubtless disappear in a few generations if new regions were not constantly being opened up and if new methods of production calling for a different distribution of the working population were not constantly being introduced. But so long as these changes occur on any considerable scale differences in wages may be expected to continue. Improvements in means of transporting workers and their belongings and of transmitting intelligence tend to widen the labor market and may in time make it as wide as the whole country. There seems little likelihood, however, that the barriers that now oppose the free movement of population among different countries, and by so doing perpetuate differences in rates of wages among nations, will be overcome for many centuries. Economists describe the unwillingness of workmen to seek the market which promises the highest wages as the *immobility of labor*. This immobility must always be kept in mind as a chief circumstance preventing that distribution of the labor force of each country, and even more of the whole world, which would yield the largest productive results. From the point of view of distribution it causes some labor markets to be over-supplied relatively with the different grades of workers for which there is a demand and forces such workers to content themselves with proportionately lower wages.

Efficiency and Time Wages Contrasted.

§ 143. In judging of the extent of differences in the rates of wages paid in different localities care must be taken to compare workers of equal degrees of efficiency. From the point of view of the enterpriser it is not the time or effort of the worker for which wages are paid, but the work done. He is interested not in the wages per hour, per day or per week of his employees, but in the expense per unit of what they accomplish. If of two workmen working side by side one accomplished in a given time twice as much as the other, his wages should be twice as high to make the expense of his labor to his employer the same as that of the other workman. Free competition in the labor market tends to equalize the expense of labor or *efficiency-wages,* but not *time-wages,* except for workmen who are equally efficient. The industrial

world presents many examples of differences in wages paid for the same kind of work due to differences in the efficiency of the workmen. The very low earnings of the Indian coolie, for example, are due in part to his very low standard of efficiency in comparison with workers of the white race. Even if the congestion of population in India could be relieved the low industrial efficiency of the people would remain a cause of relatively low wages.

Other Causes of Differences in Wages:

§ 144. Thus far, in considering the more important reasons for differences in wages, we have assumed that the money return is the only inducement which controls the competition of workmen. If this were the case competition would, as has been stated, tend to make the earnings of workers of equal efficiency the same in each labor market. But, as a matter of fact, men do not consider the money return which an occupation promises merely, but all of the advantages and disadvantages connected with it. The principal other considerations which offset and consequently help to perpetuate differences in money wages are the following:

Differences in Cost of Living.

(1) It is not money wages, but real wages, that are compared, and real wages vary with the expensiveness of living in different localities. In country districts the goods which wage-earners of the lower grades consume are usually cheaper than they are in cities. Hence low money wages in the country may stand for the same real wages as high money wages in the city. An equally favorable comparison may be made between the cost of living in a warm and in a cold climate. In the former houses need less to be heated, fewer clothes and less food suffice and the number of free goods is larger. This is one circumstance tending to keep money wages lower throughout the Southern States in the United States than they are in the North.

Expense of Learning Trade.

(2) Some occupations require longer apprenticeship and more expensive training than others. In comparing different occupations men normally take account of the time and capital that must be invested in preparatory training, and unless the earnings in the industry requiring special preparation promise to be large enough to repay them for the investment, they will not make it. In practice capital invested

in training affords a very high return because so many of those who might benefit most from training are too poor to obtain it.

Ease or Difficulty of Work.

(3) Occupations differ in the ease or difficulty of the work required. The harder and more disagreeable the work the higher must the wages be to attract men from easier tasks. This does not mean that those who do the most disagreeable work are the ones who are most highly paid. It often happens that men who do such work have not the option of doing something easier, and when this is the case their earnings may be very low. Whenever they have such an option, however, the wages paid for the most arduous toil must fully make up for the difference or it will fail to attract its quota of workers.

Hazard Involved.

(4) Some positions are more dangerous than others and must offer a premium to cover life and accident insurance, in addition to mere wages, to attract workmen from safer trades. Unfortunately in practice wage-earners are only too apt to ignore the risks they run. Each one looks upon himself as an exception, immune from the hazards to which his fellows are exposed. Consequently the influence of the risks connected with an employment on wages is much less than would be anticipated on abstract grounds.

Chance of Success or Failure.

(5) The chances of success and the rewards of success are different in different occupations. In the professions, especially, "nothing succeeds like success." The more clients or patients a man has the more eagerly he is sought by additional clients and patients. It results from this that successful professional men are as a rule successful even beyond their deserts. The hope of similarly large incomes attracts into professional callings more men than the businesses require. This reduces the average earnings in these occupations. In the United States professional men undoubtedly receive smaller average incomes than do men of equal ability and training engaged in commercial enterprises, and partly for the reason just given.

Social Esteem.

(6) Some positions are held in high esteem and offer social advantages to compensate for lower earnings. This is true usually of professional work and serves, like the previous

influence, to depress the money earnings of professional men.

(7) The regularity of employment must always be considered. Trades like those connected with building, which give employment only part of the year, must, to equalize advantages, offer higher day wages than those which occupy men continuously. **Regularity of Employment.**

(8) The chance of advancement and promotion must also be taken into account. Employments which lead to nothing should afford better pay than those having educational value and serving as steps in a gradual ascent to higher positions. **Chance for Promotion.**

These and other similar considerations will readily be accepted as reasons for differences in wages that are independent of differences in men. Taken together they come so near to explaining all differences in wages that some writers have assumed that but for them competition would in time bring the money wages of all grades of workmen to one uniform rate. This would certainly be true if competition were perfectly free and equal, that is, if all men were sufficiently alike to turn readily to the occupations that offered the largest returns. Under such circumstances the working population would move away from industries which paid low wages and toward industries which paid high wages, until the decreased labor supply in the former advanced earnings and the increased supply in the latter reduced them to the uniform rate. But, as we have seen, men are not alike in their industrial qualities. We must now inquire why the progress of evolution does not make them alike by gradually eliminating all but those of the highest industrial type. **Finally Men Unlike.**

§ 145. A complete answer to the above question would carry us outside the field of economics into that of biology. Men are unlike, in part, because they are born so. And though the struggle for existence tends to eliminate types so unusual as to be incapable of self-support, within the limits fixed by the necessity of survival, hereditary differences in capacity seem to be transmitted generation after generation without appreciable check. **Influence of Heredity in Dispute.**

Influence of Habit, Custom and Education.

If heredity were the only factor in determining character and capacity, the adjustment of the supply of workers of different grades to the demand for them would be largely outside of society's control. But most students agree that education, which includes all of the formative influences acting upon human beings from without as they pass through life, is an equally important force. Adam Smith went so far as to say that "the difference between the most dissimilar characters, between a philosopher and a common street-porter, for example, seems to arise not so much from nature as from habit, custom and education." A similar view was expressed recently by a Chicago judge who had had much experience in dealing with youthful criminals. When asked if he thought that his own children would have been criminals if they had been brought up in criminal surroundings he replied: "I don't think so, I know it." Except as regards abnormalities both in the direction of genius and imbecility the view that "habit, custom and education" have more to do with differences in men than "nature" seems to be justified by observation. In any case it is chiefly through education that men act in their efforts to fit their children for industrial life.

Differences in Standards of Living Perpetuate Differences in Wages:

§ 146. Education being such an important influence in molding industrial capacity, a partial explanation of differences in capacity must be sought in differences in the educational opportunities that are offered to the children of different families. Notwithstanding the self-sacrificing devotion of nearly all parents to the interests of their children and notwithstanding improvements in free public educational institutions, such differences are still great, even in the United States. Their perpetuation is due in large measure to the different *standards of living* which control the conduct of different industrial classes. By the standard of living is meant *the mode of activity and scale of comfort which a person has come to regard as indispensable to his happiness and to secure and retain which he is willing to make any reasonable sacrifice, such as working longer, or postponing marriage.*

Definition of Standard of Living.

The influence which differences in standards of living have on the educational opportunities which children enjoy may be observed on every side. Compare, for example, the lives

Educational Opportunities of Children of Well-to-do and of Manual Laborers Contrasted.

of typical children of well-to-do parents with those of the children of ordinary manual laborers. The former enjoy, in infancy, the watchful care of intelligent mothers and the best of medical attendance in times of illness. They are less apt to be forced in their development and more certain to be supplied with nourishing food, pure air and the other requisites to healthful growth. Arrived at school age, unless the public schools in the locality are superior, they will be sent to less crowded private schools. Even more important is the fact that the sons of the well-to-do are under no pressure to leave school when they attain the age of fourteen or fifteen, because their earnings are not needed to swell the already ample family income. They will go through the high-school, at least, before choosing their occupations, and they are very likely to take courses in college and even subsequent technical or professional courses if they have a bent in either of these directions. At length, arrived at the period when they are ready to enter some regular occupation, family influence will usually be able to command favorable openings for them and the same influence will often facilitate their advancement. Meantime the standard of living of their parents has impressed itself upon their minds and characters. They have learned to regard a large income as essential to well-being and to appreciate the advantages of property. Though the sons of well-to-do parents sometimes show a tendency to recklessness when released from the restraints of school life, most of them learn prudence without ever having tasted the fruits of improvidence. They know that a certain income is indispensable to what they consider decent single existence and that a somewhat larger income must be assured before marriage is to be thought of. Young men mindful of the expenditures of their girl friends are restrained by a sense of chivalry from proposing marriage until they can provide advantages at least equal to those enjoyed at home. On their side young women in the group have definite ideas in regard to the cost of maintaining a household and are quite as prudent in their attitude toward matrimony. In consequence rash matches among young people of this class are few, and young men are usually well established before they incur the responsibility of providing for a

family. This postponement of marriage results in a low birth-rate for the class as a whole, which, by lessening the number trained for the higher professional and industrial positions, helps to maintain the earnings which holders of such positions are able to command.

Very different from this is the life history of typical children of the manual laboring class. In consequence of early marriages, facilitated by the fact that manual laborers attain their full earning capacity at the age of nineteen or twenty, children come in this class before the parents have themselves reached maturity. Their number, and the rude way in which the family is compelled to live, prevent the mother from giving them the attention that their best interests demand. As these children approach the age when they can go to school they are allowed to spend more and more time on the streets and to acquire that precocious knowledge so destructive of the idealism natural to childhood. In school their progress is retarded by the lack of that stimulus and encouragement on the side of parents that is so helpful to children reared in more fortunate circumstances, and, just as they are getting old enough to form judgments for themselves, their help is needed at home, or jobs are secured for them, and the formal part of their education is brought to an abrupt close. In the choice of their occupations immediate earnings are likely to be determining and consequently, instead of being apprenticed to skilled trades, they more often than not follow their fathers and become manual laborers. Made bread-winners thus early in life, they are apt before they are twenty to find the restraints of home irksome, and to resolve to create homes for themselves as soon as their earnings come up to the low standard to which they are accustomed. Acting on such resolutions they follow in the footsteps of their parents, as their children are likely to follow in their footsteps. Thus the children of manual laborers, like the children of the well-to-do, are largely influenced in their life careers by the standards of living to which they happen to be born.

§ 147. A more complete study of the characters and habits of different groups of workers would confirm the conclusion

suggested by the above comparison, that is, that the persistence of differences in industrial capacities among individuals is due chiefly to differences in educational opportunities which are due in turn to differences in standards of living. But, it may be asked, if education is so important a cause of the differences in the earning powers of different men, and if acquiring education is simply one way of investing capital for a future return, how does it come about that more capital is not invested in this way? The answer is simple. Those to whom the education would be invaluable are too young or too ignorant to appreciate the fact or are without the capital to invest. Their parents are also without capital and have, moreover, a less direct personal interest in the result. Men with capital, on the other hand, do not invest it in the education of other people's children, except as a charity, because there is no form of contract under which they could claim a part of the return. Those needing education cannot, as minors, legally contract, nor can their parents bind them, except within certain limits, during the period of their minority.

Reasons Why More Is Not Invested in Education.

It follows from the above considerations that for all but the children of the wealthy such education as is enjoyed must be public and free. For the community as a whole, the investment of capital in educational opportunities tending to add to the industrial capacity of boys and girls is a certain means of adding to the collective wealth. Capital so used, especially to inculcate higher standards of living and efficiency among children of the poor, yields a princely return and will continue to do so until the present inequalities disappear. It is therefore to the community, and to improvements in the free schools, free colleges and free universities, that we must look for the removal of the disadvantages under which the children of the poor now labor. To remove them completely it will be necessary not only to improve schools, colleges and universities covering all branches of technical and professional training, but to raise the standards of parents so that they shall be eager to have their children enjoy the best advantages and to provide in some way for the maintenance of children whose parents cannot afford to support them during their

Necessity for Free Public Education.

years of study and preparation. The mere mention of these needs re-enforces what has been said of the present lack of equal educational opportunities.

Conclusion. Summing up the results of our analysis, we must conclude that the industrial population consists of various groups of workers whose differences in fortune and in standards of living are reflected in unequal educational opportunities which serve to perpetuate, generation after generation, the differences in wages explained in previous sections. The picture drawn appears somewhat exaggerated for the United States at the present time, because the country is comparatively new and undeveloped. The exploitation of natural resources still offers a wide field for the adventurous and prevents, while it continues, that rigid stratification into economic classes that is found in the older countries of the world. But such a stratification already appears in the United States and it will show itself more and more clearly as the natural resources of the country come more completely under private ownership, unless the tendency in this direction is successfully opposed by a broad and vigorous social policy. In spite of it there are even in the older countries referred to many individual exceptions to the rule that children remain in the economic class to which they were born. Persons of great native ability rise to positions suited to their capacities despite all obstacles. On the other hand, all advantages seem wasted on other persons who from innate stupidity or perverseness are incapable of deriving benefit from them. These exceptions are of much more significance to the moralist than the more commonplace careers that have alone received attention in the preceding analysis. They justify the familiar assertion that each one's success in life depends mainly upon himself, but they do not alter the more fundamental truth that the sort of self one is depends upon heredity and education and that differences in educational opportunities are a chief cause of the differences in wages which it is the task of economics to explain.

§ 148. The causes of differences in rates of wages and of their persistence, generation after generation, have been explained in the preceding sections and it remains now to

account for the earnings that are enjoyed by marginal workmen, which are the minimum from which all higher earnings are measured. The thesis that we have proposed to defend is that under conditions of free, all-sided competition the earnings of marginal, as of other, workmen tend to correspond accurately to the contributions which they make to production. To gage this contribution we must pass now to the discussion of interest, the last share in distribution. The different factors in production coöperate in all productive processes. The product is a joint-product and we can determine the share of it that is economically ascribable to each factor only after we have clearly perceived the basis on which the claims of all of the other factors rest. In the next chapter we have to explain interest and differences in rates of interest by an analysis similar to that we have applied to profits, rent and wages, and then to consider how the comparisons are made by which the proportionate share of each factor is determined.

The Determination of Marginal Wages.

REFERENCES FOR COLLATERAL READING

**Clark,* Essentials of Economic Theory, Chap. VIII.; **Seligman,* Principles of Economics, Chap. XXVI.; **Fetter,* Principles of Economics, Chap. XXIII.; **Carver,* The Distribution of Wealth, Chap. IV.; **Bullock,* Selected Readings in Economics, Chap. XVIII., § 3; **Marshall,* Principles of Economics, Book VI., Chaps. III.-V.; **Taussig,* Principles of Economics, Chaps. XLVII. and XLVIII.; *Schoenhof,* The Economy of High Wages, Part I.; *Pierson,* Principles of Economics, Part I., Chap. VI.; *Thompson,* The Theory of Wages and Its Application; **Adam Smith,* Wealth of Nations, Book I., Chap. VIII. and Chap. X., Part I.

CHAPTER XVI

DISTRIBUTION: INTEREST

Definition of Interest.

§ 149. Interest has already been defined as what is paid for the use of capital. From the point of view of distribution it is *the share of income that is assigned to capital goods, or more accurately to the owners of such goods, for the part these play in production.* The great variety of capital goods and the diversity of the services which they render were discussed in a previous chapter (Section 83). As there explained (Section 78), the creation of capital goods requires, in addition to the factors involved in all production, saving, abstinence and waiting. Those who convert their incomes into capital instead of spending them contribute to production in these ways just as truly as do workmen by their activities. And just as " labor in and for itself is not valuable " but only " because through it valuable goods are produced " (Section 105), so capital goods are only valuable because they too assist production.

Nature of Problem.

The problem of interest, like the problem of wages, is threefold. First, the phenomenon itself must be accounted for, that is, it must be explained why from the gross money returns of industry there is normally assigned to the owners of capital goods, over and above the replacement fund which makes up for any depreciation in value which these goods sustain, the share or income which we have called interest. Second, differences in the proportionate shares, or in the rates of interest, assigned to the owners of equally valuable stocks of capital goods of different kinds must be accounted for. Third, the causes determining the marginal or current rate of interest must be explained.

Preliminary Explanation.

§ 150. Touching no portion of economic theory has there been so much discussion or difference of opinion as touching the reasons for the payment of interest. Yet the explanation

of this payment must follow the same general lines as the explanation of other shares in distribution. A preliminary statement of the theory of interest at this point is designed to clear the way for the consideration of difficulties and complexities to be dealt with later.

Interest on Bank Loans a Derived Form.

A very common and seemingly simple form of the interest problem is presented by the payment of interest on money loans. Why, for example, are savings banks willing, not only to become the unpaid custodians of money deposited with them, but also to return with each deposit an additional sum, $104, say, at the end of a year, in place of the $100 originally received? Every one knows enough about the business of savings banks to answer this question correctly. They are willing to pay moderate rates of interest because they are able to loan the money received on deposit at higher rates to the business community. Interest on money loans is a derived form of interest.* To explain it fully the economist must go behind it and explain why business men are willing to pay interest for the use of borrowed money. A superficial answer to this second question is also easy. Business men are willing to pay interest because they know that by converting the money borrowed into the capital goods appropriate to their businesses they can get back the interest promised and enough more to make the transaction worth while. This brings us then to the essence of the interest problem—to explain how it comes about that capital goods will normally earn something for their owners over and above their own replacement fund.

The Source of Interest the Productiveness of Capital.

As so often in our discussion of distribution, so now in explaining the phenomenon of interest, we must begin by asking the reader to oppose in his imagination the demands of consumers for consumable goods and the available supplies of the factors that coöperate in the production of such goods. Current methods of production assign a highly important place among these factors to capital goods—tools, machines, buildings and the other produced means to further production. By their aid the fruitfulness of human industry is

* Interest on money loans is discussed at more length in the chapter on Credit and Banking (Section 194).

enormously increased. This is equivalent to saying that any increase in the supply of capital goods that is available will increase the volume of consumable goods that can be produced, as any decrease in the supply will lessen production. And this increase in the output of goods that results from the aid which capital goods render to production, since it applies to the collective national industries and not merely to some particular branch of production, will, as we have seen (Section 99), cause a corresponding increase in the money income to be distributed. The increase in production which is to be credited to capital goods is thus not merely an increase in the volume of commodities but an increase in the aggregate price to be obtained for the larger volume.

The demands of consumers for consumable goods causes them to command certain prices. Enterprisers, desirous of making profits by supplying goods at these prices, compete against one another for control of the factors necessary to production. This competition tends to keep their own profits down to a bare wages-of-management and to force them to pass along as the remuneration of the factors which they hire, subject only to this deduction and to a deduction for the replacement fund, the total price which they receive for the things which they sell. Their competition for the factor, capital, presents two aspects. One is their competition for control over the purchasing power which is tied-up in the capital goods they use during the period in which these are performing their productive function. This is their demand for capital proper, which gives rise to interest. The other is their competition for concrete capital goods. In this connection their demand is that of purchasers of the various sorts of commodities they require. As already explained, the prices they must pay for these commodities tend under conditions of free competition to correspond to the expenses which representative firms incur in their production. As buyers of capital goods they pay prices controlled by the same influences that control all prices. As users of capital goods in production they pay interest on the purchasing power tied-up in these goods during the period in which they are rendering their productive service. The explanation of interest to which these

considerations lead may be summarized as follows: *Capitalists receive a share of the price paid for the products which their capital (embodied in concrete capital goods) helps to produce, because the amount of capital is limited, because through its aid the amount produced and, therefore, the amount to be divided is increased, and because enterprisers, knowing the important part which capital plays in the branches of production with which they are concerned, are willing to pay for its use and are compelled by the competition of other enterprisers so to pay or to go without.* The determination of just what rate they shall pay, that is, of the current rate of interest, is a complex matter depending on comparisons between the contributions to production of units of capital and units of labor under the given conditions of supply of these factors as explained in later sections (Sections 155-159).

Summary Statement of Explanation.

As suggested in this explanation, it is not the concrete capital goods—tools, machines, etc.—that are the objects of borrowing and lending in the business world, but rather capital, the price of these capital goods in terms of money or purchasing power. It is for this rather than for any particular forms of capital goods that enterprisers, as borrowers, compete. Having obtained a loan of some part of the limited purchasing power that is available, the enterpriser himself converts it into the concrete capital goods he requires. From his point of view it is these goods that he borrows and for the use of which he pays interest; from the capitalist's point of view general purchasing power is the thing loaned and for the use of which interest is paid. By retaining the capital goods which he purchases and using them in his business, the enterpriser secures the interest which they are capable of earning as an addition to his gross money returns. Out of the added return due to the capital goods he pays the promised interest on the borrowed capital. The replacement fund, which in time substitutes a new fund of purchasing power for each worn-out capital good, enables him to repay the principal of the loan or, if it is continued, to add new capital goods to his productive equipment. If, instead of borrowing capital, the enterpriser uses wealth that he himself has accumulated, the same results follow except that under these cir-

Interest Paid for Use of Capital.

cumstances he retains for his own benefit all of the interest that the capital goods earn in his business.

Points Requiring Special Emphasis.

There are two points in this explanation that require special emphasis. First, it is not mere temporary ownership of capital goods that entitles the owner to claim interest, but continuous ownership over a longer or shorter period of time. The capitalist must continuously refrain from spending his wealth on his own gratification or it cannot perform its function as capital. This is the point which socialists overlook when they contend that those who *produce* capital goods ought to receive the interest which these subsequently afford. Those who produce capital goods *may* secure this interest if they save these products for use in further production. Ordinarily, however, they are paid for what they produce as they produce it and spend their pay on immediate gratifications. They thus have no claim on the interest that capital goods afford, because it is not through anything that they do that these goods are made available for further production. The second point is that it is only because the available supply of capital goods is limited that they command interest. If ability and willingness to save were universal, capital might be accumulated in such large volume that enterprisers could secure more of it than they could profitably convert into capital goods in connection with their businesses. In such a situation interest might entirely disappear. The circumstances which limit the amount of capital that is accumulated, which are discussed in Sections 40 and 175, are thus the ultimate reasons for the payment of interest.

The Replacement Fund Gives Mobility to Capital Embodied in Capital Goods.

§ 151. Differences in rates of interest, the second part of the interest problem, require explanation because it is the tendency of competition to equalize the earnings of all kinds of capital goods within the same market for capital. This is accomplished largely through the agency of the replacement fund. As already explained (Section 79), some capital goods are highly mobile and may be assigned readily to the particular branch of production in which they are in greatest demand. Most capital goods, however, are more or less specialized and seem to lack the plasticity necessary to free movement and free competition. This is the situation as it presents

itself to the observer taking an instantaneous photograph of capitalistic production. But instantaneous photographs of shifting, changing objects are seldom very lifelike. They fail to represent their essential characteristic, which is movement. To be understood, capitalistic production must be studied not as it appears at any particular moment, but as it appears over a considerable period of time. It is not an instantaneous photograph, but a " moving picture," or a series of successive impressions, that is required. Every capital good has its distinct life history. By itself it has little mobility, but through the fact that it comes into being, wears out and is replaced, it allows considerable mobility to the capital transiently embodied in it. No capital good is ever called into being unless the investor or enterpriser responsible for its creation believes that it will earn not only the current rate of interest on the sum invested in it until it is worn out, but in addition a fund for its own replacement. In the bookkeeping of the industrial world a part of the earnings of capital goods is regularly set aside to replace those goods. This constantly accruing replacement fund, which flows back to investors and enterprisers, is completely mobile. It appears as a certain amount of free purchasing power which may be used either to replace the capital goods in process of destruction with exactly similar goods, or to call into being quite different capital goods, as the judgment of the enterpriser may determine. At any given moment the amount of this mobile replacement fund is small. In order that delay and loss may be avoided, its destination must be decided upon even before it arises, and in consequence it seldom accumulates in the hands of investors and enterprisers, but merely flows through their hands on its way to embodiment in new forms of capital goods. Nevertheless the existence of this constant flow of mobile purchasing power makes possible the withdrawal of capital tied-up in highly specialized forms of capital goods and its transformation into other forms of capital goods at a rate which only those familiar with the ups and downs of business can appreciate. How this facilitates the tendency of competition to smooth out differences in rates of interest in the same capital market must now be explained.

Competition Tends to Eliminate Differences in Rates of Interest.

§ 152. Consider first differences among different firms in the same branch of production. One firm has preceded all others in putting in some superior machine or other form of capital, and this gives it higher earnings until others gradually introduce the superior machines into their plants also.* But competitors are always trying to keep their plants up to the highest point of efficiency. If inventions and improvements in processes were to cease it would take but a short time for the very best equipment to be introduced into all freely competing establishments. Those unable to modernize their processes would be forced into other industries. They could not sell at the normal price and continue to make profits equal even to a fair wages-of-management. Allowing time enough for the process, therefore, it is evident that in the absence of patents, or other monopoly conditions, the earning power of capital goods in different competing establishments would be equalized.

Differences Among Different Branches of Production.

But among different branches of production differences might still persist. Shoe machinery might, for example, be earning more than textile machinery. But if this were the case, one or both must be earning less or more than the current rate of interest for capital generally. If shoe machinery were earning more than the current rate, competing shoe manufacturers would tend to enlarge their plants to secure the extra interest on a larger investment. By so doing they would, on the one hand, make drafts on the country's free capital tending to enhance the rates of interest other enterprisers would have to pay to secure the capital needed to keep their plants intact, while, on the other, they would tend to depress the price of shoes by increasing the supply and in this way to lessen the total to be divided among all the shares in distribution in this branch of production. As the result of action and reaction the extra earnings of shoe machinery would disappear. If, on the other hand, the difference was due to the fact that textile machinery was earning less than the current

* These higher earnings were called "profits" in Chapter XII. in conformity to business usage. In describing them here as "interest" we simply go a step further back and attach them to the superior capital goods to which they owe their existence.

rate in industries generally, the conditions would be favorable to a reduction in the number of textile plants and the gradual release of capital for other investments. This would tend to raise the price of textiles and give larger returns to textile machinery, while it at the same time reduced the relative earnings of capital goods in other industries by permitting a slight expansion. Thus among different branches of production, as in the same branch, competition is always tending to equalize the earnings of capital goods. As society approached the state of normal equilibrium, differences in interest rates would be less numerous and less extreme in consequence of such changes and adjustments, and when the normal state was reached they would have entirely disappeared. Only on this condition could a permanent equilibrium be established, since any difference in interest rates is itself a reason for change. When the state of equilibrium was reached, capital goods would be so distributed that each branch of production would have just its quota of capital embodied in the best forms of capital goods known to enterprisers, and no more. The earnings of each unit of capital in each capital good would be kept the same so long as the equilibrium continued as those of every other, and the division of the free-flowing replacement fund among different branches of production would be simply the automatic restoration of the wastes of production, accomplished as perfectly as is the restoration of the wastes of the human body through the processes of life.

Causes of Differences in Rates.

§ 153. The above analysis of the tendency of competition helps to explain why in actual practice differences in rates of interest persist. To the extent that the mobile replacement fund fails to multiply forms of capital the moment they are needed, or to withdraw other forms the moment they are superfluous, there is opportunity for differences in the earning power of capital goods. The circumstances which cause such differences to arise will now be briefly indicated.

Monopoly.

The most familiar ground for differences in the return from different investments is the presence of monopoly. The monopolist deliberately restricts the output of the monopolized product so that the returns to the capital and labor he employs exceed those to be realized in competitive industries.

We have designated the surplus return as monopoly profit, but since it frequently comes to investors in the form of dividends it is often thought of as a part of interest. In a sense monopoly profit is a part of the share of income ascribed to the capital goods which figure in monopolistic production. This is particularly true when the basis of the monopoly is a patent. Patented machines do earn the larger returns which they enable their owners to secure. At the same time the reason for the larger earnings is always the monopoly, and it conduces to clearness to consider dividends derived from monopolistic enterprises as made up in part of interest and in part of monopoly profit.

Interest on Permanent Improvements.

The close resemblance of interest on permanent improvements to rent has already been commented upon. Such improvements will not be made unless there is good reason to think they will afford at least the current rate of interest, but after they have been made the capital invested becomes a part of the land itself and receives income in obedience to the law of rent. If the anticipations of the investor are exactly realized, such capital goods afford an income corresponding to the current rate of interest, but only so long as industrial conditions remain undisturbed. Prospectively regarded such an income is interest, retrospectively it is rent.

Specialized Forms of Capital Lack Mobility.

Every specialized form of capital is subject to a certain extent to the same limitations as permanent improvements. Consider, for example, a factory which it takes a year to build and which cannot, without considerable loss in value, be turned to account in another branch of industry than that for which it was designed. The investment of capital in such a factory will only be made in case there is good reason to expect that it will earn at least the current rate of interest. But before the factory can be available for production a year must elapse. In this time changes may occur. The prudent investor will hesitate to transform his free capital into a factory until there is a margin of prospective return over and above the current rate of interest to compensate him for the risk he incurs. It follows that until the earnings of specialized capital goods exceed, to some extent, the current rate of return on free capital such goods will not be multiplied.

Competition among investors stops before the earnings of such goods are reduced to the general level. On the other hand, after the factory has been erected, the capital invested in it can neither be withdrawn nor allowed to remain idle without considerable loss to the investor. If industrial conditions change so that the share of income assigned to the factory diminishes, the investor must make the best of the situation. Instead of getting the interest he expected, or even the current rate on free capital, he may obtain only one-half the current rate or even less, and yet it may pay him better to keep the factory in operation than to close it or to try to turn it to some other use. Under such circumstances the earnings of specialized capital goods may depart widely and for considerable periods from the current rate of interest. In communities in which changes in the demands of the market and in the methods of production are constantly occurring, discrepancies of this sort may be so common as to obscure the fact that competition tends to establish one uniform rate of interest for all capital goods. On the other hand the tendency of the business community to revalue specialized forms of capital goods by capitalizing their actual earnings at the current rate of interest, irrespective of the expense that may have been involved in their production, may easily lead to the contrary error, that is, the assumption that the current rate applies much more widely than is actually the case. All that we can assert with confidence is that to the extent that competition is free, the *tendency* toward one uniform rate of interest for all capital goods will be operative. The more active the competition and the more stable the methods of production, the narrower will the limits be within which variations in interest rates will be confined.

Differences in Risk of Loss.

§ 154. Another cause of differences in interest rates results from the danger of accidental destruction to which some capital goods are exposed. Whenever this danger may be provided against by the machinery of insurance, the difference figures simply in the larger replacement fund which must be earned in addition to current interest by the capital goods affected. In many cases the danger is too irregular and uncertain to be insured against, and the increased interest needed to attract

capital into the precarious investment depends upon the temperament of investors. Conservative people will be deterred by the fear of loss from investing at all in such enterprises. More reckless and optimistic capitalists may be tempted into taking large risks by the promise of only a slightly larger return than the current rate of interest.

Differences Among Different Sections.

In addition to the differences in rates of interest earned in different investments and by different kinds of capital goods, there are differences among different sections. Although much more readily transported to the best market than labor, capital also is timid about venturing far from its source. Capitalists usually feel that they can better estimate the risks involved in investments near home than at a distance. In consequence of this feeling capital tends to be concentrated in the centers where men of wealth live, and new and backward communities are able to command less than their proportionate share of the available capital equipment. Instead of there being one rate of interest on free capital in a country like the United States there are a variety of rates, ranging from the low rates found in the large cities and the manufacturing sections of the North and East to the high rates prevailing in the agricultural and mining regions of the South and West. A variation of from two to three per cent between the rates of interest regularly charged for equally good loans by banks in New York and Arizona roughly reflects the difference in the earning power of capital goods in the two localities. As the country's banking system is perfected and different districts are brought into more intimate business relations the supply of capital will tend to distribute itself more equally over the entire industrial field and such differences will become less marked. As in the case of wages, however, differences in rates of interest among different countries are likely to persist long after differences among different districts of the same country have become insignificant.

§ 155. In the preceding sections the causes of differences in the rates of interest have been discussed and the process has been traced by which the earnings of all goods would be leveled to one uniform rate in a society brought to a state of normal equilibrium. Such a consummation is much nearer

at hand in actual industrial society than is one uniform rate of wages. Capital goods are impersonal. As they wear out they create a free replacement fund which is constantly available to equalize their earning powers. Moreover, capital passes much more readily from one part of a country to another than does labor. If industrial changes should be completely suspended for but a few years and monopoly did not intervene, substantial equality in interest rates might be expected to establish itself over a wide region. These facts cause economists to use the expression, *general rate,* in reference to interest, as they would not be warranted in using it in connection with wages. By it is meant the rate which economic forces tend to make general. In the following discussion we shall use that expression, or the more precise phrase, *marginal rate,* as convenience may dictate. The precise rate of interest is, of course, not in question in this section, but rather the causes which unite to make the rate high or low and to determine the relation of interest to the other shares in distribution.

Differences in Rates of Interest Less Marked than Differences in Wages.

We are now prepared to consider the relations among the different shares in distribution and to prove our thesis that the general or marginal rate of interest and the marginal rate of wages or the rate of wages of marginal workmen tend, under conditions of free, all-sided competition, to equal the contributions which the respective factors make to production. To simplify the discussion we may assume that free competition has eliminated net or competitive profits, as it constantly tends to do, so that the reward of enterprisers is confined to their wages-of-management, which obey the same principles as wages generally. Monopoly profits are, of course, excluded from the problem since their very existence is inconsistent with the free competition assumed. Even were this not the case we should be justified in ignoring them in connection with the present problem, since the wage and interest rates paid for workmen and capital goods in monopolistic enterprises are usually adjusted to the rates paid in competitive businesses. Enterprisers controlling monopolies wish, as much as other enterprisers, to secure their productive factors as cheaply as possible. They could afford often to pay very high

Assumptions Made to Simplify Discussion.

Monopolies Not Considered.

wages and interest at the expense of their monopoly profits, but as a matter of fact they usually pay only a little if at all higher rates than those fixed by general, that is, competitive, conditions. It follows that the explanation of wages and interest that applies to competitive industries will apply also, so far as these shares are concerned, to monopolistic industries.

Rent Already Explained.

The explanation of rent given in Chapter XIV. leaves its relation to wages and interest in no uncertainty. It is a differential return due to the superiority of the land or other natural agent used in the given productive enterprise in comparison with marginal land devoted to the same purpose. At the final margin of production it does not appear at all; at other points it takes the surplus due to natural conditions and in no wise affects the shares, wages and interest. Within each labor market the same rates of wages, approximately, are paid for the same grades of labor, whether rent happens to be another item of expense which the enterpriser incurs or not. The same statement holds true of each market for loans of capital. It follows that an explanation of the causes fixing wages and interest at the no-rent margin of production is a complete explanation. The same forces are active in every other part of the industrial field and serve to determine wages and interest in practical independence of rent.

With profits eliminated and rent explained in entire independence of the other shares, there are left to be analyzed the causes which determine the division of income between wages and interest. At the final margin of production in competitive enterprises the entire product is divided between these two shares, and before we attempt to explain the law of division it will be well to recall the influences which determine the amount of this joint return.

Circumstances Determining Amount of Joint Share.

§ 156. Since the joint share which goes to labor and capital at the margin of production includes the entire product which free land, labor, capital and the organizing ability of enterprisers produce at the margin, its size depends obviously upon all of the factors that were discussed in the chapters on Production. Of primary importance is the quality of the land and the natural agents which are used at the margin. In a country like the United States, which is abundantly supplied

with land and natural resources in proportion to its population, the lands, mines, forests, fisheries, sources of water power, etc., which are used at the margin are rich and afford large returns to the labor and capital applied to them. Up to a quite recent period in the history of America, improvements in transportation facilities and the discovery of new sources of natural wealth have kept pace with the growth of population and of capital and the margin of production has been lowered but little, if at all. It has been from the first discovery of the country very much higher than the margin of production found in Europe, and this has been a chief cause of the high earnings which labor and capital have commanded in the New World. Wages and interest have been higher because labor and capital have been more generously assisted by nature in marginal industries where this assistance has been gratuitous.

The Influence of Enterprisers.

Next to the location of the margin of production, the efficiency with which labor and capital are correlated in production is the most important influence determining the amount of their joint share. This depends upon the intelligence and alertness of enterprisers. The United States is fortunate in this regard also. Its captains of industry compare favorably with those of any other country and it is doubtful if industrial organization is anywhere more highly developed. Through efficient organization labor and capital succeed in producing and earning more than they could if less intelligently directed.

Qualities and Quantities of Workmen and Capital Goods Important.

Other factors influencing the result are the industrial capacity of the workers as individuals. The more ability and energy they put into their work the larger will their return be. Equally important is the efficiency of the forms of capital utilized in production. If improved tools and machinery, convenient and sanitary buildings, etc., are the forms into which the community's capital is thrown, the returns will be larger than if poor implements and badly planned structures predominate. The efficiency of the forms of capital used depends upon the progress that has been made in invention and discovery. In this field, also, the United States compares favorably with other countries. Its capital equipment is not perhaps quite as large in proportion to its popula-

tion as is that of some older countries, but it is up-to-date and efficient. By its aid the product shared between labor and capital in marginal industries is further increased.

Both Wages and Interest High in the United States.

Through these influences, and all of the others discussed in the chapters on production, the joint share of income which goes to labor and capital is determined. If the conditions are favorable, as they unquestionably are in the United States, the joint share will be large. The terms of its division between labor and capital themselves determine whether wages will be high relatively and interest low, or interest high and wages low, or both wages and interest high together. The last condition is that found in the United States in comparison with conditions in European countries.

The Law of Competitive Distribution.

§ 157. We are now ready to discuss the causes which determine the division of income between wages and interest. As these shares are paid for the part which the respective factors, labor and capital, play in production, we should expect the amounts paid or the rates of wages and interest to be in proportion to the importance of the services which each renders, and this is in fact the case. *Each tends to get a share of the joint-product exactly equivalent to what it produces.* This is to be understood, of course, not in the sense that a determinable part of the product can be said to be created by it, but only in the sense that such a determinable part is economically imputable to it. Thus land and natural forces assist production at every point. Their aid is necessary to the productive result at the margin as elsewhere and from the point of view of *physical causation* the marginal product is theirs as well as that of the other factors. *Economically,* however, they have no claim to a share of this product because their services are gratuitous. Only in this economic sense can we say that labor and capital tend to get the exact equivalents of what they produce.

Workmen and Capital Goods Compete as well as Coöperate.

As already suggested, workmen and capital goods not only coöperate in production, but also compete. At some points in every industry enterprisers have the alternative of using certain grades of labor or certain forms of capital for the accomplishment of a desired result. Lifting may be done by capital goods in the form of elevators, cranes, etc., requiring

only human guidance, or by workmen laboriously climbing ladders with loads on their backs. Moving may be accomplished by men trundling wheelbarrows or pushing tram cars, by means of horsecars or by steam railroads. Similarly in manufacturing, the tool-equipped workman is ever a competitor of the automatic machine. Even in agriculture steam plows may be used in place of horse plows with a considerable saving in labor, and harrowing, planting, reaping and other processes may be performed through the use of machines of varying degrees of complexity, or by hand tools. This choice between workmen and capital goods to accomplish specific productive results is by no means a simple matter. It is complicated both because the utilization of capital goods, even automatic machines, nearly always necessitates the employment of some labor and because the employment of wage-earners, except in those rare cases in which they receive their compensation directly from the product, requires the use of some capital (Section 102). The usual choice is, thus, not one between pure labor and pure capital, but between expenditure for wages and interest in one proportion or in another proportion to secure the same productive return. In deciding between capital goods and workmen at competing points, the guiding principle always acted upon by enterprisers is to choose that combination of factors which, in proportion to its efficiency, is cheapest. Workmen are substituted for capital so long as it pays to make the change. At other points capital goods are substituted for labor so long as this is profitable. Every such substitution tends to enhance the price that must be paid for the use of the preferred factor, since it involves increased demand for it without any change in its supply. It at the same time tends to lower the price that must be paid for the factor that is rejected. Its supply is increased without any corresponding increase in demand. In actual society, where changes are constantly occurring not only in the quantities of labor and capital, but in the methods of production and the kinds of capital used, these substitutions occur constantly and the distribution of labor and capital is far from being at any one time what it is tending to become. If changes were suspended, substitutions

of workmen for capital and of capital goods for labor would continue for a time, but each substitution would help to bring society nearer to the state of normal equilibrium. When that state was reached capital goods would continue to be used for many purposes for which they alone are suited, and workmen would continue to be employed at many tasks which could not possibly be done by the most perfect machinery or other capital goods. At other points capital goods would be doing tasks that might be done by labor, while workmen would be doing things that might be effected through capital. For some of these tasks one or the other would be distinctly preferable so long as wage and interest rates remained as they were, and therefore they would be little involved in the substitutions made after changes were suspended. In the case of others the choice between the factors at current rates of wages and interest would be a very nice one. Enterprisers would continue for some time to make substitutions at these points, and these substitutions would serve for some time to cause changes in wage and interest rates which would make further substitutions desirable. The range of these changes would contract steadily as the state of normal equilibrium was approached, and when that state was reached capital goods would be so assigned that their net addition to the product just covered the rate of interest that had to be paid for them, and workers would be so assigned that they received just what they produced also. Only on this condition could there be a state of equilibrium, because paying to owners of capital less than capital goods produced, or to workers less than they produced, would involve a third element in distribution, an extra profit to the enterpriser. Competition eliminates this extra profit only by bidding up wages and interest until each corresponds accurately to the additions that workmen and capital goods respectively contribute to the product. The measurement of these additions economically ascribable to workers and capital goods is effected by means of substitutions. Capital goods are substituted for labor and workmen are substituted for capital down to a *margin of indifference, that is, to a point where both factors are equally cheap at prevailing rates of wages and interest.* At this margin of indifference it would

This Competition Leads to Comparisons and Substitutions by Which Wage and Interest Rates Are Determined.

be possible to compare the shares of the product to be credited to the respective factors and each would get the equivalent of what it produced. *The law regulating the division of the product between labor and capital for a society in a state of normal equilibrium is, therefore, that each receives the share that it produces.* As all capital goods will have the same earning power, the earnings of the goods at the margin of indifference will fix the general rate of interest. All grades of workmen will not be compensated equally, but as their earnings are arranged in a scale, in the manner explained in the last chapter, the determination of the earnings of marginal workmen will serve indirectly to determine the wages of all.

Law Restated.

§ 158. It should be carefully noted that the productiveness of either labor or capital, as measured by economic forces, depends not only upon the location of the margin of production and its own efficiency and supply, but also upon the efficiency and supply of the other factor. This may be made clear by means of an example. Let the reader imagine an island community which has an abundance of land of the best quality and therefore no occasion to pay rent, and from which monopoly is absent, so that the products of industry are divided by competition between wages and interest. Suppose that at the outset there are 1000 workers and $1,000,000 worth of capital embodied in those capital goods for which the community has most need. Assume further that the net product of a year's industry is worth $600,000 and that it is divided by the method just explained so that $500,000 or an average of $500 to a man is assigned as wages, and $100,000, or ten per cent, is assigned to capital goods as interest. These rates of wages and interest measure the productiveness of capital goods and workers as determined by comparisons at those points where they may be substituted for each other. Now suppose that instead of consuming its entire income the community saves ten per cent of it, that is, acts in such a way that ten per cent of the net product of the year's business will take the form of new capital goods to be added to the continuously renewed original stock of capital goods, and only the remaining ninety per cent of the product the form of consumers' goods. This, it must be noted, involves

The Law of Competitive Distribution Illustrated.

an increased willingness to save on the part of the people, but how this develops we need not here inquire. Let the population meantime merely renew itself so that there are still 1000 workers. The total capital for the second year's industry is now $1,060,000. The addition of the new capital will tend at once to lower the rate of interest. The free loanable fund is larger, and those controlling it as it arises, bankers, etc., will compete against one another to induce enterprisers to take it. As interest goes down wages, on the other hand, will tend to go up. To utilize the new capital to best advantage more workmen are needed, and enterprisers to whom the capital is intrusted will compete against one another in hiring workmen. These are temporary effects. To decide whether they will remain as permanent results after the new capital has been assimilated by the producing mechanism we must consider how the productiveness of units of capital and units of labor under the new conditions will compare with their productiveness before the change. The addition of $60,000 to the capital fund will cause a recasting of the whole capital-goods equipment of the society. The $1,000,000 worth of capital was already embodied in the most needed forms of tools, machines, etc. Since there are no new workers the new capital must be embodied in less needed forms to supplement the old forms that continue to be renewed, or else must be combined with the old capital released as old capital goods wear out to replace these old forms with new and more costly tools, machines, etc., that are more efficient, but not to the full extent of their increased prices. Incidentally some of the new capital goods will be used for purposes for which workmen were previously employed before they became relatively so scarce. The productiveness of capital goods in the marginal uses to which capital is put will, *assuming that no improvements in methods of production are introduced,* be lessened by these changes. The forms of capital goods which it now pays to use are less needed. They add less to the product of industry and those who supply them must be content with less interest. But if interest falls at one point it must, for reasons already explained, fall over the entire industrial field before adjustment is complete.

Hence we may conclude that the fall in the rate of interest noted as a temporary effect of the increase of capital will, in the absence of improved methods, be permanent.

But by so much as units of capital in the illustration have lost in relative importance, workmen have gained. With their superior equipment they can produce at least as much more than before as corresponds to the productiveness of the new capital goods. Suppose that the fall in the rate of interest amounts to ½ per cent. Then the total deduction from the year's product on account of interest will be 9½ per cent of $1,060,000, or $100,700, of which 9½ per cent of $60,000, or $5700, will represent the addition to the product ascribable to the new capital. The total product of the year's industry will be the old product, $600,000 plus at least this new product, $5700, or $605,700. Since of this only $100,700 is now deducted for interest the remainder, or $505,000, will go to the 1000 workers as wages, or each will receive on the average $505 a year instead of the $500 previously earned. They are the same men working no harder than before, but the increased supply of capital has increased their relative importance and, therefore, the share of the product economically ascribable to the part they play in production. In such a community capital might conceivably be increased until every known kind of capital good capable of earning enough for its own replacement was added to the community's equipment and interest was lowered to nothing. Each addition to capital would increase the relative importance of labor and by the time interest was eliminated wages would have assumed princely proportions, although the workmen remained the same sort of men and continued to exert themselves no more than when their earnings averaged but $500 a year.

This assumed case is entirely hypothetical and the figures used are intended to be merely illustrative, but the fundamental relation between wages and interest which it indicates is believed to be true of actual industrial society. The introduction of rent and other complications will not alter this fundamental relation. The productiveness of labor will still depend not merely upon the richness of the land and natural resources at the margin of cultivation and upon the

number and efficiency of the workmen, but also upon the kinds of capital goods in use and the quantity of capital. A change in any one of these factors will alter the economic importance of every other and consequently the share of the joint product that is economically imputable to it as its share.

Correspondence with Actual Industrial Society.

§ 159. The assumption that industrial society is brought to the state of normal equilibrium, which plays such an important part in the preceding discussion, is merely a device for making clear and precise what in actual industrial society is indefinite and elusive. This assumption involves, however, nothing more than giving free play to competition and allowing time for it to work out its full effects. In actual industrial society the efforts of enterprisers are constantly directed, as we have represented them to be, toward using capital goods only down to the margin of indifference on the capital side, and toward employing workmen only down to this margin on the labor side. To overstep it in respect to either is to incur loss, while on the other hand failure to push the use of the productive factors to this limit in each branch of production is to forego a profit that might otherwise be obtained. Thus in actual practice the use of additional capital goods here, and the employment of more workmen of a given grade there, or the withdrawal of capital goods or the discharge of workmen, have for their purpose better conformity to the ideal arrangement of labor and capital that has been described. At any given time a rough approximation to the ideal toward which competitive forces are always straining is actually presented, and in every branch of production comparisons between the productiveness of quantities of capital and quantities of labor are being made by enterprisers and are determining their business decisions. The law of competitive distribution that we have stated is, therefore, the law to which actual distribution tends to conform.

REFERENCES FOR COLLATERAL READING

**Clark*, Essentials of Economic Theory, Chap. IX.; **Seligman*, Principles of Economics, Chap. XXV.; *Carver*, The Distribution of Wealth, Chap. VI.; **Marshall*, Principles of Economics, Book VI., Chaps. VI.-VIII.; *Pierson*, Principles of Economics, Part I., Chap. IV.; *Taussig*, Principles of Economics, Chaps. XXXVIII.-XL.

CHAPTER XVII

VALUE, PRICE AND DISTRIBUTION

Summary of Theory of Value.

§ 160. We have now surveyed, in broad outline, the whole field of consumption, production and distribution, and are prepared to discuss the ultimate determinants of economic relations. We have seen that men habitually value goods not as aggregates, but as divided up into distinguishable units, such as pounds or bushels, and that the use-values they ascribe to these units are in proportion to their marginal utilities. We have seen further that in industrial society making valuations is a collective process. It is not the marginal utility of each good to each consumer that determines its value, but the marginal utility of each good to consumers collectively. Moreover, goods are valued as bundles of utilities by adding together the marginal utilities of their different qualities to the groups which are just able to command those qualities. Thus the rich accept in large measure the valuations which the poor place upon necessaries and comforts, and confine their influence to the valuation of luxuries. For consumers collectively, however, the values of goods are determined by their marginal utilities.

Summary of Theory of Prices.

From the point of view of consumption, values in use, the relations between goods and men, are all-important. In production and distribution their derivative, values in exchange, concretely represented by prices, hold the forefront of interest. The exchange value of a good is its power to command other goods in exchange for itself. Price is exchange value in terms of the good used as the medium of exchange, or money. The determination of money prices was shown to result from competition and bargaining among buyers and sellers and it was found that laws of price might be formulated from the point of view of either. From the side of buyers the tendency is for price to correspond with the money equivalent of the

marginal utility or use to the marginal buyer of the good purchased. It thus depends in part upon buyers' scales of wants or uses and in part upon the sums of money which they have to spend. From the side of sellers the law of price depends upon the conditions of production. Under conditions of monopoly the tendency is for the monopolist to charge the price calculated in the long run to afford the largest monopoly profit. Under conditions of free competition, on the other hand, the price tends to correspond with the expenses of production to representative firms. The actual price is usually somewhat above or somewhat below this normal and allows for a competitive profit or loss to the enterpriser.

Relation Between Incomes of Consumers and the Expenses of Production.

These laws of price leave unconnected two factors that are intimately related to each other—the sums of money which buyers have to spend and the profits and expenses of production which figure in the calculations of sellers. Generally speaking these are the same sums of money, for what buyers spend is their money incomes, and money incomes arise because of the part which those who receive them play in production. They are either profits, rents, wages or interest. To bridge over this gap in the explanation of prices and in so doing to supply a complete theory of value and price is the task of the theory of distribution. It recognizes that buyers and sellers, consumers and producers, are, in general, the same individuals and that the whole machinery of buying and selling is simply a convenient means of combining effectively the various factors in production and of assigning the appropriate shares of the product to those who have claims upon it.

Graphic Representation of Production and Distribution.

§ 161. In order to restate the laws determining rent, wages and interest it will be necessary to advert for the last time to the relations that would prevail in an industrial society brought to the state of normal equilibrium. In such a society the relation between production, distribution and consumption would be extremely simple. Production would still be carried on as a serial process, but it could be readily analyzed, since all prices would correspond exactly to the expenses of production and these would never vary. The whole matter may be represented graphically by the following figure:

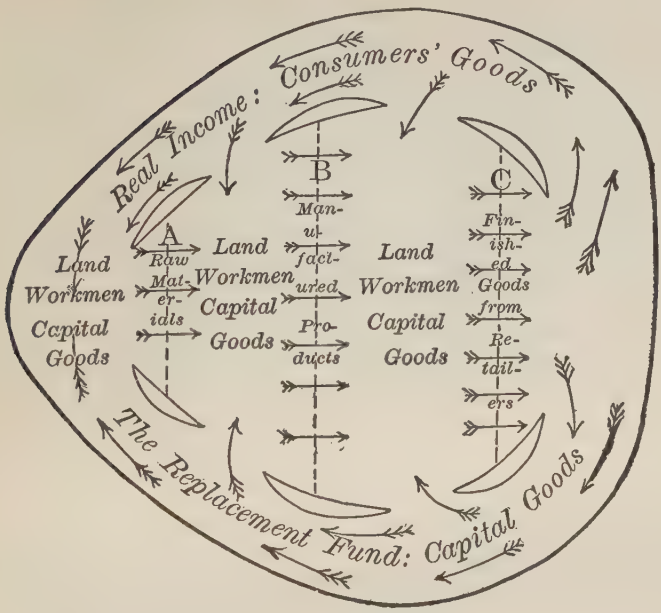

FIG. 9.

In the above figure production is represented as subdivided into three great stages. The extractive industries, depicted at the extreme left, turn out raw materials. Manufacturing takes these and transforms them into manufactured products. Transportation and trade deliver these finished products to purchasers, who may be either consumers converting their money incomes into real incomes, or enterprisers converting the free replacement fund into capital goods to restore the wastes incidental to production. The figure represents movement without change. Goods are flowing continuously from stage to stage. At the last stage, the stream is divided, an unvarying volume of capital goods flowing one way and an unvarying stream of consumers' goods flowing the other. The capital goods exactly replace the goods destroyed in the course of production and the consumers' goods exactly remunerate the owners of land, workmen, and owners of capital goods for the productive services which they or their possessions have rendered. Finally the prices of goods are invari-

able and everywhere just equal to their unvarying expenses of production.

Restatement of Theory of Rent.

§ 162. How the expenses of production are determined was explained in the last three chapters. A brief restatement will suffice to recall the principal points. Rent is paid for the services which different pieces of land perform in production. On the one hand are the various uses to which human wants and prevailing methods of production cause pieces of land to be put. On the other are the quantities of land of different qualities and in different situations. The most suitable pieces of land are assigned to the most important uses. To them are added less suitable pieces down to a margin where a given piece is equally valuable for some other use. If assigned to the first use the given piece must command a rent equal to what it was worth for the other use, as shown by comparing it with other pieces actually devoted to that use. This rent is a " marginal rent " for all pieces of land assigned to the first and most important use. To it are added differentials measuring the superiority of pieces of land above this margin to determine their respective rents. The same process of comparison applied to pieces of land good enough only for inferior uses serves to determine their rents. At the very bottom of the scale are found pieces of land for which there are, economically speaking, no alternative uses. The " margin of indifference " for this lowest grade of land is the point where it does not matter economically whether the land is cultivated or allowed to lie waste. At this point pieces of land can command no rent. Economically speaking they are superabundant and, therefore, free. From this lowest no-rent margin of indifference the rents of all better or more favorably situated pieces of land are measured. Rent is the differential which indicates their position in the economic scale. From the point of view of price it is the share of the total price that is economically imputable to the land itself. If this share is large it indicates that the land serves an important economic use and that land equally well adapted to this use is scarce.

§ 163. Wages are paid to workmen for their services in production. Their determination results from calculations

closely similar to those that are made in connection with rent, but the matter is more complicated because workmen are more adaptable to different uses than are pieces of land, and because the number of workmen of different grades is more fully subject to human control. Moreover, the margin of indifference for workmen is not that between the least important tasks to which workmen of the lowest grade are assigned and tasks of no economic importance, but between these tasks and less important ones that are ruled out economically by the scarcity of workmen even of the lowest grade. As in the case of pieces of land, so in the case of workmen, there are, on the one side, the various employments for workmen of different grades determined by the wants of consumers and the current methods of production, and, on the other, the number of workmen of each grade fitted for these employments. Wages are determined by comparisons just as are rents, only the basis from which all higher wages are measured is not no-wage, but low-wage workmen.

Restatement of Theory of Wages.

A complete theory of wages has to explain not only existing differences in rates of wages and the law by which marginal wages are fixed, but also why these differences persist. This we undertook to do by reference to the diverse standards of living found in each community and the influence of these standards in controlling the growth of population and determining the industrial qualifications of the members of each successive generation of the world's workers. Marginal wages were shown, on the other hand, to be determined by comparisons between the productiveness of workmen and of capital goods. At the margin of production where no rent is paid there is a product to be divided between labor and capital. The size of this product is the primary consideration upon which rates of wages and interest depend, and, as was shown, this is influenced largely by the location of the margin of production. If the number of the population is not so great compared with the natural resources of the country as to force a resort to inferior lands, mines, etc., the no-rent margin will be located at a point where workmen and capital goods reap a large return. In the division between workmen and capital goods the location of the margin of indifference between them

The Wages of Marginal Workmen.

is the important consideration. This depends in part on the number and efficiency of the laboring population and in part upon the quantity and quality of the capital goods used in production. In general the law is that competition tends to assign to each factor as its share of the price of the product an amount corresponding to what it has produced. Each factor, in other words, gets the equivalent of its own product measured not absolutely, but, in the only way that it can be measured, comparatively. Wages above the marginal rate also tend to correspond to what the workmen who receive them have, economically speaking, produced. They indicate the place each worker holds in the scale of productiveness. In reference to wages as a whole, then, as in reference to rent, we conclude that the law is for each workman to get the share of the price of the product that he has himself contributed.

Restatement of Theory of Interest.

§ 164. Interest is what is paid to the owners of capital goods as remuneration for the services these goods render in production. The great mobility of capital, which results from the constant destruction and replacement of capital goods, causes it to be available for each use for which it is fitted in about the same proportionate quantity. In the assumed state of equilibrium the distribution of capital over the whole industrial field would be perfect. Capital goods would be supplied for each use down to the point where the interest they afforded just equaled the interest earned by equally valuable capital goods in other branches of production, and there would be one uniform rate of interest over the whole industrial field. This rate is determined in the same way as is the marginal rate of wages, by comparing the productiveness of capital goods with that of workmen. At the margin of indifference, where either may be used indifferently for given purposes, the balance is struck between them. The location of this margin depends, as already stated, upon the number and efficiency of the laboring population and the quantity and quality of the capital goods used, and also upon all of the influences that determine the amount of the joint share which labor and capital divide between them at the margin of production.

There are certain difficulties which suggest themselves in

connection with this explanation of interest that must be cleared up at this point. They refer to the calculation of the replacement fund which each capital good is assumed to earn along with its interest. It will naturally be asked just how the amount of the total replacement fund is determined, and, secondly, how the proportion that must be assigned to this fund each year is fixed. The total amount of the replacement fund for each capital good equals, obviously, the price of the capital good. In the state of equilibrium assumed, this corresponds exactly to the expense of producing the capital good. This expense might be followed back in thought to the point at which the bare-handed savage appropriated from the storehouse of nature the material from which the first capital good was fashioned and the expense of production consisted wholly of wages, but it is equally logical to take for granted the conditions determining the prices of the capital goods used in the previous stages of production and make these the starting point for an analysis of present relations. The total replacement fund must then equal the price of the capital good to be replaced as determined by its expense of production.

The Calculation of the Replacement Fund.

The amount to be set aside each year for the replacement of a capital good depends upon its durableness and the standard of efficiency which it must maintain in order to make its continued use profitable. Circulating capital goods must be completely replaced as they are used. Fixed goods wear out at varying rates and no general rule can be advanced in reference to them. The standard of efficiency required of capital goods depends in general upon the location of the margin of indifference between capital goods and workmen. If this is such that the rate of interest is relatively low while the rate of wages is relatively high, capital goods must be discarded promptly as their efficiency falls below a certain high standard, in order that loss may be avoided. This is because in most of their employments capital and labor work together, and it is uneconomical to equip highly paid workmen with worn and inefficient tools and machines when the use of new tools and machines may be had on the payment of a low rate of interest. The lower the rate of interest, accordingly, or the higher the rate of wages, the shorter the period

The Life Period of a Capital Good Depends upon Current Rates of Wages and Interest.

that capital goods will continue to be used and the larger the periodic allowance for their replacement which must be made out of their gross earnings. In the reverse case, that is when interest is high and wages are low, tools and machinery will continue to be used for a much longer interval and the accumulation of the replacement fund will be spread out over a correspondingly longer period. These considerations explain why cheap labor and old and inefficient capital goods are usually found together, while the almost certain attendant of dear labor is an up-to-date and efficient equipment of capital.

Explanation of Interest Applies to Gross as well as to Net Earnings of Capital Goods.

In distinguishing the earnings of capital goods into two elements, an interest fund and a replacement fund, we have merely followed the practice of the business community. The use of money as the universal medium of exchange causes loans to be made usually in money rather than in the capital goods which the borrower actually needs in his business and ultimately obtains by purchase with the money borrowed. The replacement in money of the principal borrowed causes interest to stand out clearly as a distinct item and accounts in large measure for the practice referred to. It would be an error, however, to conclude that the earnings of capital goods assigned to the replacement fund obey any different principle than those assigned to interest. Competition tends to make the earnings devoted to both uses correspond to the contributions which capital goods make to the price of the product and in the assumed society this correspondence would be perfect. The law of interest applies, therefore, as well to the gross as to the net earnings of capital goods, and it may be laid down as a general principle for capital goods, as for pieces of land and workmen, that they tend to receive as their shares of the price of the product amounts corresponding to what they contribute to production.

Restatement of Law of Competitive Distribution.

The general law of competitive distribution for a society allowed to attain the state of normal equilibrium is, then, that each factor in production has assigned to it a share in distribution corresponding to what it itself produces. If rent, wages and interest be defined as the prices paid respectively for the services to production of pieces of land, workmen and

capital goods, the law may be stated to be, that competition tends to put a price on the services of each of the factors of production corresponding to the price which attaches to its particular contribution to the product. In actual industrial society, as has already been pointed out, economic relations fall short of this competitive ideal. Monopoly influences intervene to secure monopoly profits for some enterprisers at the expense of the shares assigned to wages and interest. Changes occur to throw the whole mechanism of production out of adjustment and to occasion profits or losses to other enterprisers which must in time be distributed among all participants. Special obstacles prevent certain groups, especially among the laboring population, from getting the full benefit of the influence of competition and make their earnings less than they ought economically to be. Adequate account must be taken of these and other influences when it is attempted to make practical application of economic theories, as in the later chapters of this book. Notwithstanding them, the law of competitive distribution which has been explained remains the norm to which actual relations tend always to adjust themselves. Its mastery is preliminary not only to a thorough understanding of prevailing conditions, but to any intelligent effort toward improving those conditions as they affect the mass of men. No apology need therefore be offered for the prolonged attention which the reader has been asked to give to a hypothetical society which, as is freely admitted, will never exist outside of the imagination of the economist.

Necessary Qualifications.

§ 165. Lest the true significance of the law of distribution to which our analysis has brought us be misconceived, it will be well to consider carefully certain conclusions that might seem to follow from it, but that really do not. First, then, although we have found it convenient to give great prominence to the tendency of competition to cause prices to correspond with the expenses of production of representative firms, nothing in our analysis would justify us in saying that these expenses *determine* prices. On the contrary, it would be nearer the truth to say that prices, determined by the money equivalent of the marginal utilities or uses of goods to marginal buyers, *determine* the expenses of production. But this

statement also would fail to tell the whole truth. Prices are paid for goods because of limitations on their supplies. These limitations under conditions of free, all-sided competition are due in turn to limitations on the supplies of the factors of production—superior land and natural resources, workmen of all grades, capital goods. Thus if prices determine the expenses of production, the causes necessitating expenditures in production play a part in determining prices. The chain of causation is not straight, but returns upon itself in a circle. Each influence that needs to be considered acts and reacts upon all of the others.

Secondly, since we cannot logically say that the expenses of production determine prices, then neither can we say that a particular share in the expenses of production, such as wages to marginal workmen, determines the part of the price corresponding to it. When we assert that wages to marginal workmen tend to equal the price of that part of the product which is economically imputable to the labor of these workmen, we do not mean that the price of part of the product is determined by wages. The determination of price is a complex process and wages figure in it only as the limitation on the supply of labor is one of the causes of the limitation on the supplies of consumable commodities which causes them to command prices. The competitive bidding of enterprisers for the limited number of marginal workmen tends to raise the price or wages paid for their services to a level with the price of the part of the product imputable to their services. In this sense and only in this sense can we assert that competition tends to make wages equal what the factor, labor, produces.

A final misapprehension to be guarded against is that the law of competitive distribution which has been stated is a *justification* of such distribution. Economically speaking, landowners may get only the equivalent of what their land produces, workmen may get the full equivalent of what their labor produces and capitalists may get only what their capital goods produce, and yet this may be a very unfair division of the product. It leaves entirely unconsidered two questions that are fundamental to any decision as to the justice of the

system, that is, is there a fair division of opportunities for individuals to develop into efficient producers and is the private ownership of land and capital goods itself just? Our opinion touching the first of these questions was indicated in the discussion of the causes of differences in rates of wages (Sections 140, 146 and 147). In answer to the second some views are advanced in the closing chapters.

The law of competitive distribution, as these three qualifications on conclusions that might be drawn from it suggest, is not the economist's last word touching any important problem. It is merely an aid toward an understanding of the complexities of actual industrial life in which monopoly and change are even more conspicuous than what we have designated as " normal " conditions.

Other Theories of Distribution.

§ 166. The theory of competitive distribution that has been explained in this and the preceding chapters is commonly described as the " productivity theory " on the ground that it undertakes to account for the shares assigned to the different claimants by reference to the contributions which they have made to production. Although indorsed by many leading American and foreign economists, it is not universally accepted. Among rival theories, that which undoubtedly holds first place is the " exchange theory," ably presented as regards interest, or the share of wealth assigned to capital, by the Austrian economist, Professor Eugen von Böhm-Bawerk, in his two books, *Capital and Interest* and *The Positive Theory of Capital.* The objections which this distinguished writer urges against the productivity theory can best be indicated by a brief review of the exchange theory which he himself offers as a substitute. If it can be shown that there is no real opposition between this and the productivity theory, the conclusions of both will be strengthened.

The Exchange Theory.

In his explanation of interest, Professor von Böhm-Bawerk starts out with the entirely just contention that distribution is simply one segment in the completed circle of exchanges by which economic relations are controlled in an industrial society in which each produces not for himself, but for the market. He applies this thought to the interest problem, as follows: the enterpriser by purchasing the appropriate kinds

of capital goods and combining them with land and labor may, under normal conditions, realize a product whose price covers all of his expenses and leaves over an interest on the capital invested. Interest is thus the difference between the price of capital, or "future goods," and that of the products, or "present goods," into which they will ripen if managed with ordinary business prudence. It will be noted that his characterization of interest is different in terms rather than in essence from that given in the text. Instead of saying, as we have done, that capital goods produce present goods worth more than themselves, that is, an interest over and above their own replacement fund, he asserts that the present value of capital goods is less than is normally the value of the goods into which they will be transformed by the process of production. Both statements agree as to the difference in value. We have given prominence to the assistance which capital renders to production as a cause of this difference; Böhm-Bawerk gives prominence to other considerations.

Interest a Discount on Future Goods.

Pursuing his inquiry, Professor von Böhm-Bawerk concludes that the explanation of interest lies in the tendency of men to value present goods more highly than equivalent future goods and that the rate of interest is simply the rate at which they discount future goods. This appears to be a very different proposition from that in the text that the rate of interest is the ratio between the value of the net products of capital goods and the value of those goods themselves, but if it can be shown that Professor von Böhm-Bawerk's rate of discount depends, at last analysis, on the productiveness of capital goods the seeming opposition between the two views will be reconciled.

The Exchange Theory from Viewpoint of Lenders.

In the determination of the rate of interest, as in the determination of every other rate with which economics has to do, there are two parties to be considered, lenders or capitalists, who supply capital goods, and borrowers or enterprisers, who turn them to productive account. The exchange theory of interest views the phenomenon primarily from the viewpoint of lenders. Interest is a premium that is constantly offered by the present organization of industrial society to those who will convert their incomes into future goods instead

of present goods, or save and invest instead of spend.* That there is such a premium and that it plays an important rôle in the explanation of interest all must agree (Sections 40 and 175). For, if men did not discount future goods, they would save their incomes rather than spend them on immediate gratifications so long as interest could be earned in this way. It is equally obvious that whenever and so long as the current rate of interest exceeds the rate at which men discount future goods, income will be saved and invested and that the tendency in a competitive society will be for the supply of capital goods to be kept at that level at which the rate of interest and the rate of discount for those who are just on the margin between saving and spending are equal. From the side of lenders or capitalists, accordingly, the law of interest is that presented by the exchange theory.

The Productivity Theory from the Viewpoint of Borrowers.

The productivity theory is based on a study of interest from the viewpoint of borrowers or enterprisers. They know from experience that capital goods are productive in the sense that under the direction of men of average prudence they may be made to afford interest. This, as explained in the chapters on production, is because roundabout, serial or capitalistic production yields a larger return in goods in proportion to the land and labor used than direct production. Nor is the objection that this larger return in goods may not involve also a larger return in the money incomes to be distributed well taken. For, as we have already shown, a simultaneous increase of goods in all branches of production such as results from the aid which capital affords to industry will not nor-

* An important reason for this premium, in Professor von Böhm-Bawerk's own explanation, is what he calls "the technical superiority of present over future goods," a characteristic which seems indistinguishable from the productivity of capital made prominent in the rival explanation. Certain versions of the "exchange theory," for example, Professor Irving Fisher's "impatience theory" (*The Nature of Capital and Income; The Rate of Interest*), seem to refuse to concede even in this indirect way the important part which the assistance that capital renders to production plays in the determination of interest. These theories succeed in explaining why interest must be paid to secure capital; they fail, however, to make clear the motive which induces business men to pay interest or the source from which at last analysis it is derived.

mally cause any change in price ratios but will result in a corresponding increase in the aggregate price at which the goods sell (Sections 99 and 150). Armed with the knowledge that capital goods are productive, enterprisers try to apportion the supply of capital over the industrial field so that the largest return will be realized. The comparisons which this leads them to make between different capital goods and between capital goods and workmen have already been described, as has the tendency which results from these comparisons for the rate of interest to correspond to the product economically imputable to units of capital as contrasted with units of labor. From the side of borrowers or enterprisers, therefore, the productivity theory of interest is as valid as is the exchange theory from the side of lenders or capitalists. There is no real opposition between them. Rather either to be complete must be supplemented by the other, as will appear when we come to the discussion of the last phase of the productivity theory, that is, the causes which control the supplies of workmen and of capital goods, and which by so doing determine the shares of the product assigned to them respectively, at the margin of indifference where they come into comparison.

Two Theories Complementary.

The Wages-fund Theory.

§ 167. Another theory in apparent conflict with that which has been defended in these pages is the so-called wages-fund theory, which at one time enjoyed great vogue in English economic literature. The theory can best be stated in the language of one of the leading works on political economy published about the middle of the last century, that of John Stuart Mill. It should be said that Mill himself abandoned the theory before his death, but without revising it out of his *Political Economy*. In his chapter, " Of Wages," Mill states that " wages, then, depend upon the demand and supply of labor; or, as it is often expressed, on the proportion between population and capital. . . . There is unfortunately no mode of expressing by one familiar term the aggregate of what may be called the wages fund of a country; and as the wages of productive labor form nearly the whole of that fund, it is usual to overlook the smaller and less important part, and to say that wages depend on population and capital. . . .

With these limitations of the terms, wages not only depend upon the relative amount of capital and population, but cannot be affected by anything else. Wages (meaning, of course, the general rate) cannot rise but by an increase of the aggregate funds employed in hiring laborers, or in a diminution of the number of competitors for hire; nor fall, except either by a diminution of the funds devoted to paying labor, or by an increase in the number of laborers to be paid."

Conclusions Drawn from It.

In the guarded way in which the theory is here presented no particular objection can be raised to it, since it amounts merely to saying that wages are for the most part paid out of capital, that wages in the aggregate cannot exceed that part of capital assigned to wages or the wages fund, and that, consequently, the average rate of wages depends upon the proportion between the wages fund and the wage-earning population. That real wages are, literally speaking, withdrawn from the stocks or capital of retail dealers and in this sense " paid out of capital " was shown in Section 100. That wages in the aggregate cannot exceed the aggregate fund of goods constituting wages is self-evident. Equally incontestable is the method proposed for calculating average wages. Unfortunately advocates of the wages-fund theory rarely contented themselves with these conservative statements. They presented the theory as a law of wages and assumed a rigidity in the wages fund that would justify the most extreme conclusions. Thus many of them opposed strikes and other efforts on the part of particular groups of workmen to raise their wages on the ground that their higher wages, if they did secure them, would leave a smaller wages fund to be divided among other workmen and would therefore be entirely offset by lower wages for other groups. In the same way they tended to exaggerate the dependence of workmen upon capitalists and to represent the latter as the greatest benefactors of the race, since upon their self-restraint the size of the all-important wages fund depended. Any measures calculated to check ever so little the accumulation of capital were vigorously opposed on the ground that they menaced the welfare of the whole laboring population. These and other quite unwarranted conclusions have stamped the wages-fund theory

as one of the most pernicious errors ever accredited by reputable economists.

Criticism of the Theory.

As suggested, the great fault with the wages-fund theory as a law of wages is its assumption that the wages fund is rigid and predetermined. At the time that this idea was advanced by English economists there was but a limited importation of food and the other goods consumed by the laboring population of England. It followed that, after the crops were harvested, the amount of subsistence upon which the whole population would have to depend during the ensuing year was practically determined. By thinking of wages in terms of the staple article of diet of English workmen of the period, wheat, and ignoring the fact that the wheat supply must feed others as well as wage-earners, economists succeeded in persuading themselves of the existence of a rigid and predetermined wages fund. The assumption was not justified even when England imported no food from abroad, because, on the one hand, wages, then, as now, included a good deal more than food, and on the other it was not the subsistence of workmen, only, that was predetermined, but that of the whole population. The part of the total food supply which should go to wage-receivers was never fixed in advance. It might be increased or decreased at the expense of the parts assigned to other classes. Hence it was quite unwarranted to argue even in reference to food that a strike could not improve the condition of one group of workmen except at the expense of some other.

Other Objections and Conclusion.

But if the belief that the wages fund was rigid and predetermined was not defensible in England during the second quarter of the last century, it is still less defensible for commercial countries of the present day. At the present time the principal articles used for food are produced for the world market. No country is limited to its own products, and countries like the United States which produce not only most of their own food articles, but also for export, have a large reserve on which they may draw at will. Moreover, wages in the aggregate consist to a less extent than ever before of mere subsistence, and most of the articles other than food which workmen consume are produced continuously and admit

of increase or decrease within considerable limits in response to the varying demands of the market. It follows that the wages fund under present conditions is as elastic as any of the funds with which economics has to deal, and no law of wages based upon it can throw much light on the causes which really determine wages. As was shown in Section 101, even the fact that wages are for the most part paid out of capital loses much of its significance when it is remembered that the products of labor are themselves added to capital and that the tendency is for these products continuously to replace what is withdrawn and consumed and to keep the fund of capital intact. Production and distribution are concerned less with funds of wealth than with flows of wealth and the continuous destruction and renewal that is going on at every point should put economists on their guard against any theory which assumes fixity or rigidity of relations. The true influence of the supply of capital upon the rate of wages is found not in the field of distribution, but in that of production. An increase of capital tends to raise wages because it enhances the importance of labor as a factor in production. Marginal workmen are enabled by such a change to produce more than they did before and this, at last analysis, is the reason why they earn more.

REFERENCES FOR COLLATERAL READING

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CHAPTER XVIII

VALUE, PRICE AND DISTRIBUTION (*concluded*)

The Ultimate Determinants of Distribution.

§ 168. We come now to the last stage in the explanation of wages and interest, the discussion of the causes that control the growth of population and of capital, and by so doing influence the location of the margin of indifference between them. It will be suggestive to preface this discussion by reviewing some of the facts in reference to the actual increase in the populations of the leading countries of the world in recent decades.

Statistics of Population.

In Section 17 a table was given showing the growth of the population of the United States from 1790 to 1910. The remarkable rate of increase, varying from 36.4 per cent in the decade from 1800 to 1810 to 20.7 per cent from 1890 to 1900, was due, of course, in part to immigration. During the same period the populations of European countries were also increasing, but at a much slower rate. Instead of doubling on the average once every twenty-five years as did the population of the United States during the one hundred years from 1790 to 1890, the population of all Europe but little more than doubled during the whole period.* The following table indicates the changes in the populations of the principal countries for which we have statistical information, from the beginning to the end of the nineteenth century:

GROWTH OF POPULATION, 1800-1900

(000,000 omitted)	1800-01	1900-01	Per cent of Increase
United States	5.3	76.0	1,326
Russia in Europe	40.0	110.0	175
Germany	25.0	56.4	106
Austria-Hungary	25.0	45.4	82
France	26.8	39.0	45
United Kingdom	16.3	42.0	158
Italy	17.5	32.5	86
Spain	6.0	18.6	210

* According to the French statistician, Professor Levasseur, the increase was from 175,000,000 in 1801 to 357,000,000 in 1891.

Differences in Rates of Growth, 1901-1911.

The striking differences in rates of growth between the United States and the older European countries shown by this table were undoubtedly due chiefly to the wealth of undeveloped natural resources that were available in the New World up to the very close of the nineteenth century. The different rates at which the populations of such countries as the United Kingdom, Germany and France are now increasing are not so easily accounted for. From 1901 to 1911 the population of the United Kingdom increased 9 per cent, that of Germany 15 per cent and that of France only 1.5 per cent. Emigration played some part in lessening the increase in all three countries but less so in France where the increase was smallest, than in Germany where it was largest. The principal source of these differences must be sought in differences in the birth and death rates of these countries.

Birth, Death and Marriage Rates of Different Countries.

The following table gives the birth, death and marriage rates * of some of the principal countries of the world, together with the resulting annual excess per 1000 of the population of births over deaths:

BIRTH, DEATH AND MARRIAGE RATES, 1871-1890 †

	Births	Deaths	Excess of Births over Deaths	Marriages
Austria	38.6	30.6	8.0	8.1
Germany	38.1	26.0	12.1	8.2
Italy	37.3	28.6	8.7	7.8
Holland	35.2	22.6	12.6	7.5
United Kingdom	32.6	19.9	12.7	7.2
Denmark	31.7	19.0	12.7	7.6
Belgium	31.0	21.4	9.6	7.1
Norway	30.7	16.9	13.8	6.8
Sweden	29.8	17.6	12.2	6.5
Switzerland	29.4	22.1	7.3	7.3
France	24.6	22.8	1.8	7.7

Conclusions.

The first point to be noted from this table is that high birth and death rates usually go together. Austria, Germany and Italy have the highest birth-rates and also the highest

* That is, the average number of births, of deaths and of marriages that occur in a year for each 1,000 of the population.

† These statistics are taken from Mayo-Smith, *Statistics and Sociology*, Book I., Chaps. V., VI. and VII.

death-rates. This is partly because the death-rate for young children is always high *—and consequently the higher the proportion of young children in a population, as the result of a high birth-rate, the higher the general death-rate—and partly because a high birth-rate usually means a severe struggle for existence and a high death-rate for all classes. The second point worthy of consideration is that marriage-rates and birth-rates show little relation to each other. Thus Italy and France have almost the same marriage-rates although the birth-rate of Italy puts that country well up toward the head of the list, while France is at the bottom. The conclusion seems inevitable from this table that the principal factor influencing the birth-rate is not the proportion of married persons in the population but the willingness or unwillingness of such persons to have large families.

The Malthusian Theory of Population.

§ 169. The first clearly formulated theory in regard to the growth of population was that advanced by the Rev. T. R. Malthus in his *Essay on the Principle of Population as it Affects the Future Improvement of Society,* published in 1798. Malthus's argument was mathematical in form, but so simple as to be easily followed. He advanced as too obvious to require demonstration the propositions: (1) "that food is necessary to the existence of man," and (2) "that the passion between the sexes is necessary and will remain nearly in its present state." From these he proceeded on the basis partly of reasoning and partly of observation to the conclusion that while food tends to increase only by addition or in arithmetical ratio, population tends to increase by multiplication or in geometrical ratio. The significance of this contrast he makes clear in the following sentences: "Taking the population of the world at any number, a thousand millions, for instance,

* In Bavaria, Austria and Italy nearly two-fifths of the children born die before attaining the age of five. Even in France, with its low birth-rate, one-fourth die during these critical years. Appalling as is this loss of infant life in Europe, it is as nothing compared with that which occurs in the Orient. Thus in Hong Kong in 1909 the deaths of children under one year of age were reported to be 87 per cent the number of births.

the human species would increase every twenty-five years * in the ratio of 1, 2, 4, 8, 16, 32, 64, 128, 256, 512, etc., and subsistence as 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, etc. In two centuries and a quarter the population would be to the means of subsistence as 512 to 10; in three centuries as 4096 to 13; and in two thousand years the difference would be almost incalculable, though the produce in that time would have increased to an immense extent." "The power of population is," he concludes, "indefinitely greater than the power in the earth to produce subsistence for man." Population, consequently, tends ever to press ahead of the means of subsistence, and is only restrained from so doing because without subsistence men must perish. In order to keep population within the limits fixed by a slowly increasing food supply, nature imposes checks which Malthus thought, at first, might all be included under the heads of "misery" and "vice." The lower animals, he saw, obey the instinct to propagate without thought of the consequences, with the result that their numbers are kept down by "want of room or nourishment" or by their "becoming the prey of others." Man is more prudent and may deliberately restrain his impulse to beget and multiply his kind. "This restraint," Malthus declared, "almost necessarily, though not absolutely so, produces vice." But even with its vicious attendants, this last restraint is all too weak, he thought, to keep population within the necessary bounds. Through an excess of births the food supply is rendered insufficient, and misery accompanying death through starvation and disease appears as another necessary check for man as for the lower animals. Malthus's general conclusion was that vice and misery result inevitably from the lack of harmony between man's impulse to beget and multiply and nature's

* Malthus based his view that a population, if unchecked, would double every twenty-five years, on the actual rate of increase reported in his day from America. His estimate appears not unreasonable. Economists have calculated that a difference between the birth-rate and the death-rate of 30 would result in a doubling of a population in 23 years, and agree that such a difference might easily be found. In China a birth-rate of between 50 and 60 is said to prevail; while from New Zealand comes the report of a death-rate as low as ten. A birth-rate of 45 accompanied by a death-rate of 15 would not be at all impossible.

power to produce food, and he justified these evils as the divinely selected means for quickening intelligence and soul in men who might otherwise have no stimulus to improvement.

Its Influence on Economic Thought.

More mature deliberation, stimulated no doubt by the bitter attacks which the publication of his opinions excited, induced Malthus to modify his argument in the second edition of his Essay (1803). He here recognizes that voluntary restraint not only need not, but often does not necessitate vice, and that it may alone prove an adequate check on population. By this qualification the "Malthusian theory" was changed from a pessimistic denial of the perfectibility of man to a reasoned appeal to men to substitute "moral restraint" as a check on population for the vice and misery which Malthus still deemed the chief means of holding the balance between it and the food supply. Notwithstanding these admissions, Malthus himself and many of the leading English economists who followed him, such as Ricardo and John Stuart Mill, continued to think of population as tending constantly to press ahead of the food supply.

Criticism of the Theory.

The most fundamental criticism to be urged against Malthus's reasoning is that he contrasts a purely hypothetical man with an equally hypothetical nature. Speculating as to the rate at which population would increase if unchecked is idle when, as a matter of fact, men are never unchecked in their begetting and rearing of children. Even the lowest savage appreciates the tremendous consequences of the sexual function and is to some extent restrained by this knowledge. In the same way prophecies in regard to the utmost possible increase in the earth's output of food can furnish no solid basis for scientific reasoning, because man never has and probably never will tax nature to her utmost. With all its suggestiveness, therefore, Malthus's method of approaching the question predisposed him to arrive at erroneous conclusions. He avoided these in large measure in the second and later editions of his Essay, but only by giving such a different turn to his argument as to deprive it of much of its original significance.

Current Theories:

§ 170. Economists are still divided in their opinions in regard to the relative importance of the different influences

that control the growth of population. In general they may be separated into three groups, depending upon whether they emphasize the physiological, the social or the economic factors which enter into the problem.

The Physiological Check.

The economists who make prominent physiological considerations try to establish the general law that the reproductive capacity of animals stands in a definite relation to the complexity of their nervous organizations. The more highly evolved the organism, the smaller, it is contended, will be the number of the offspring. Even if this theory were proved true in its application to different orders of animals, including man, it must remain open to question whether the subtle changes which are still going on in man's nervous organization influence appreciably his reproductive capacity. Reasoning from analogy that because men beget fewer offspring than lower orders of animals, highly developed men and women must be less fruitful than those who are less developed is suggestive, but not conclusive. On the other hand, statistics of population have not yet been perfected to a point that makes a test of the theory in the light of the facts of experience possible. If the theory prove to be well-founded it may help to set at rest the fears of modern Malthusians who continue to dread the curse of over-population. It must still be regarded, however, as an interesting hypothesis rather than as an established principle.

The Influence of Social Customs.

That the growth of population is controlled by social customs and standards was recognized quite clearly by Malthus himself. Among primitive peoples customs like that of allowing surplus female children to die from exposure at their birth have a direct influence on the growth of population and may serve as substitutes for all other checks. Marriage customs also have the greatest influence. Other things being equal, polygamous marriages are favorable to a rapid growth of population. This was clearly recognized by the founder of the Mormon Church and may explain the introduction of polygamy into that religion, notwithstanding the clear prohibition of the practice in the Book of Mormon itself. The extension of the system of monogamy tends to restrain the growth of population and has not been without influence in

preserving European countries from the periods of famine that are still not unusual in the Far East. Other customs, such as that requiring that the husband shall be able to provide a house for his wife, or that the wife shall have made with her own hands an elaborate trousseau before marriage, serve to postpone the period of marriage and indirectly to check the growth of population. As the customs and usages of different peoples are all molded to one common standard through international intercourse, the special restraints on population which once acted in particular localities will lose their force. It seems probable that social standards in future will be less concerned over the number than over the quality of the offspring. In recent years economists and sociologists have given increasing attention to the subject of eugenics, or race breeding. As yet efforts have been directed only toward stamping out undesirable lines of heredity. As time goes on, however, the attention given to the matter must inevitably influence the minds of young persons and lead them to select their mates with clearer consciousness of their obligations as prospective parents of the next generation.

The Economic Check.

§ 171. Much more important than the physiological and the social factors is the economic factor in the population problem. The most obvious and certain economic check upon population is that emphasized by all writers since the subject began to attract attention, namely, the need common to all men for food, clothing and shelter as conditions to continued existence. Population is checked by starvation, disease and death as soon as the number of the people reduces the earnings of the lowest grade of wage-earners below what is needed to maintain and rear an average family. This " positive check " is unfortunately of more than historical interest. Every year or two some portion of the world, Russia, India, China, is gripped by famine. Although some relief from the outside may now be counted on during these periods of famine, it is usually insufficient to prevent a great increase in the death-rate. Famines no longer occur in the more progressive countries of the West, but each of these has its " submerged tenth " of unfortunates who suffer habitually from under-nutrition and resulting disease and death. The members of this class are

constantly changing. Those who neither die nor win their way back to the classes from which they descend, are forced in time to apply for institutional relief and to enter the still lower class of avowed social dependents. It follows that the normal tendency of the class is toward self-extinction. It is perpetuated, if not actually added to, in countries like the United States, by the steady stream of recruits that descends to it from the higher industrial classes.

Influence of the Standard of Living.

Actual starvation confronts more rarely those belonging to the class of manual workers, but for them also under-nutrition is a possibility which prolonged illness or inability to obtain employment may at any time change into a reality. The narrow margin which their usual earnings provide above the bare necessaries of life, coupled with their lack of accumulated savings, makes them especially liable, when some temporary calamity reduces their incomes, to sink permanently below the line of self-support and self-respect. At the same time, for this class as a whole it is not disease and death, but sacrifices induced by the desire to maintain the "standard of living," that act as the principal check upon the growth of population. As this check acts in about the same way, although not in the same degree, on all classes above the very lowest, its influence may be discussed in general terms.

A Stationary Population.

§ 172. The population of a country like the United States is divided up into hundreds of different classes, each distinguished by special industrial qualities and having a different earning capacity from the others. The general law applying to the earnings of all classes is that an increase in the number of persons competing for any particular grade of work tends to lower the wages paid for that kind of work. The tendency may be counteracted by an increased demand for the grade of work concerned, or by similar increases in the supplies of workmen and of capital goods all along the line unaccompanied by any lowering of the margin of cultivation, but in the absence of these changes it is always to be reckoned with. As already explained (Section 147) different classes are more or less clearly marked off from one another and it is a usual thing for children to fit themselves for the

grade of work done by their parents. In a stationary society the number of workmen in each grade would need to be kept constant if a change in wages was to be avoided. Children in each grade would need, on the average, just to replace those withdrawn by death, or the birth-rate for each grade would need just to equal the death-rate, if there was to be no reduction in the standard of comfort. Although France alone among modern countries presents a practically stationary population, it will be useful to note what this condition of affairs would involve as regards the habits of a people before passing to a discussion of the limitations which are active in a progressive society.

Conditions Necessary to a Low Birth-rate.

The standard of living has been defined as the "mode of activity and scale of comfort which a person has come to regard as indispensable to his happiness, and to secure and retain which he is willing to make any reasonable sacrifice." From the point of view of the growth of population the sacrifices which the maintenance of the standard of living may entail are the postponement of marriage and the restriction of births after marriage. In the assumed situation these sacrifices would have to be incurred to the extent necessary to prevent population from increasing at all. Consider what this might involve for any given class in the population. As children attained maturity and began to seek for employment they would find the number of desirable positions limited and the competition for them severe. This discovery would affect different ones quite differently. Some in every class would accept the best positions they could get, adjust themselves to the limited incomes these positions afforded and marry early without much regard to consequences. They would be likely to have larger families than they could easily provide for and might be so discouraged in the struggle that they would fail to maintain their standards of living or to give their children as good starts in life as they themselves had enjoyed. Or, instead of being discouraged by the difficulties they encounter, they might only be inspired to put forth greater efforts. Marriage is the spur to lagging ambition which many young people require, and instead of preventing them from attaining the best and highest of which they are capable it

proves often the very means of helping them to such attainment. Such people raise their standards of living rather than lower them as their responsibilities multiply, and conceive plans for their children that they would have been incapable of forming for themselves. Besides those who marry early, there would be others with greater prudence who refused to assume the responsibilities of married life until they were well established. By the time such persons felt able to marry their inclination to do so might have passed, or, if they did marry, their families would be likely to be small. Allowing for men and women who do not marry at all, for childless marriages and for infant mortality, which is high in even the most advanced communities, we may conclude that the prudence and forethought of only a part of the members of each class would keep a population stationary, even though a large number were quite reckless in their marriage relations. Excessive prudence on the part of some would serve to offset complete recklessness on the part of others.

Progress and Standards of Living.

In a progressive society like the United States the conditions differ from those just described only to the extent that progress permits an increase in population without any lowering of the standards of living. If the rate of progress is rapid enough standards may be maintained and even advanced at the same time that population is growing as rapidly as early marriages and large families permit. Under such circumstances the power of resistance which the standard of living offers is not brought into play at all, and it is more accurate to speak of wages as determining the rising standard than of the standard as determining the rising wages. Few countries are so favorably situated as this. Even in the United States, especially as regards the higher industrial classes, population has been held in check by the standard of living. In periods of great prosperity the tendency is for earnings to increase and for standards to rise. The causal relation is from wages to the standard. In times of depression the higher standard is maintained and serves to prevent the fall in wages that would inevitably follow if births continued to be as numerous as they were before. The causal relation is now from the standard to wages.

Population Should Grow at the Top, Not at the Bottom.

Economists have been too much inclined to ignore the psychological results of marriage in their discussions of the population question. In a progressive community, the fact to be deprecated is not so much a rapidly growing population, as a population which is increasing more rapidly at the bottom than at the top. Early marriages and large families for those manual workers who seem incapable of achieving or even aspiring to any higher standard of living than that to which they were born are socially harmful. What is needed by persons of this type is a wider ambition, coupled with the prudence necessary to the attainment of the objects which it suggests. Persons in more prosperous circumstances, on the other hand, are apt to suffer not from lack of prudence, but from lack of sane and wholesome desires. Their standards of living are largely artificial and for them early marriages and large families are more likely than not to prove a benefit by stimulating and giving a wiser direction to ambition. Even should the result be a lowering of the earnings of the class to which such individuals belong, the consequence, socially considered, may not be disadvantageous, if it does not at the same time lower the earnings of the less well-to-do classes. An equalization of earnings through a multiplication of professional and skilled workmen and a reduction of manual workers would be highly desirable.

Growth of Population in China.

§ 173. It is suggestive to compare the situation as regards the population question of two countries which are at opposite poles in their conduct with reference to this matter, China and France.

A recent writer on China describes conditions in that country as follows:* "It is believed that unless twice a year certain rites are performed and paper money is burned at a man's grave by a male descendant, his spirit and the spirits of his fathers will wander forlorn in the spirit world 'begging rice' of other spirits. Hence Mencius taught 'there are three things which are unfilial; and to have no posterity is the greatest of them.' It is a man's first concern, therefore, to assure the succession in the male line. He not only wants a number of sons, but—since life is not long in China and

* Ross, *The Changing Chinese*, pp. 96-98.

the making of a suitable match for a son is the parent's prerogative—he wants to see his son settled as soon as possible. Before his son is twenty-one he provides him with a wife as a matter of course, and the young couple live with him until the son can fend for himself. There is none of our feeling that a young man should not marry until he can support a family. This wholesome pecuniary check on reproduction seems wholly wanting. The son's marriage is the parents' affair, not his; for they pick the girl and provide the home. . . . As the bride must be younger than the groom, early marriage for sons makes early marriages for daughters. The average age of Chinese girls at marriage appears to be sixteen or seventeen, although some put it at fifteen. . . . At twenty practically all girls, save prostitutes, are wives and five-sixths of the young men are husbands. This means that in the Orient the generations come at least a third closer together than they do in the Occident. Even if their average family were no larger than ours, they can outbreed us, for they get in four generations while we are rearing three. But their families are larger because their production of children is not affected by certain considerations which weigh with us. . . . The very atmosphere of China is charged with appreciation of progeny. From time immemorial the things considered most worth while have been *posterity, learning* and *riches*—in the order named."

The result of these beliefs and habits is seen in the Chinese birth-rate, estimated by competent authorities to be between 50 and 60. As the country is already densely populated, the pressure of population on the food supply makes the struggle for existence intense and the positive check which Malthus depicted is constantly active. As a consequence no problem is more important for China than educating her people out of the beliefs which now make them so reckless in their marriage relations.

Growth of Population in France.

In striking contrast with these beliefs and habits are those which control the growth of the population of France. There, as in China, marriages are usually arranged by the parents of the contracting parties, but the motives which influence them and which control husbands and wives after marriage

are very different. In the minds of the parents the desire for grandsons is overshadowed by the desire to see sons and daughters happy and successful. As a rule, instead of urging their sons to marry early, French parents impress upon them the importance of not marrying until they are in a position to support a family. As regards their daughters they are torn between the fear that if marriage is postponed too long the opportunity for a good match may be missed and the desire to retain their daughters at home, partly for the sake of their society and partly because French custom requires the provision of a dowry. Under these circumstances it is not surprising to find that the average age at the time of marriage of French men is over twenty-nine and of French women nearly twenty-six. More mature at marriage French husbands and wives consider it less important to have large families than to rear tenderly and well the two, three or four children for whom adequate provision can be made out of the limited family income. The consequence is that the average number of children to a family in France is only three. Since in France as in other Western countries there are many bachelors and spinsters and since, as already stated, one-fourth of the children who are born die before attaining the age of five, this barely suffices to prevent the population from declining. Thus in France the population problem is the problem, not of keeping down numbers, but of keeping up numbers. Unlike Malthus, French economists view, not over-population but "race-suicide" as the menace against which measures must be taken if the prosperity of their country is to be preserved.

Conclusions.

As between the opposing tendencies represented by China and France, there can be no doubt that it is the example of France that progressive countries are likely to imitate in the future. Although in no other country are birth and death rates so nearly equal, there is a general tendency among Western countries for birth-rates to decline and on the whole at a more rapid rate than death-rates, which are also falling. The same influences that have made the population of France practically stationary seem likely as time goes on to operate with equal force in other countries. One factor in this change

that is certain to prove highly important is the growing economic independence of women and the increasing influence which their desires must exert on marriage relations. In the past the population question has been discussed as though it were exclusively a man's question. It was to men that Malthus and his followers addressed their appeals for greater prudence and self-restraint in connection with marriage. But the burden of bearing children and most of the trouble of rearing them falls upon mothers rather than upon fathers. While there is no doubt that the great majority of women will continue to desire to become wives and mothers, since survival is necessarily confined largely to this type of woman, it is equally certain that they will not desire to be mothers of indefinitely large families. As in France so in other countries in the minds of both mothers and fathers, the desire to rear two to four children well is likely to supersede the desire for the patriarchal families of the past. The change will come slowly, because social habits alter slowly, but already it has gone so far in Western countries that little more is heard of the danger of over-population.

The Growth of Population Controlled by Standards of Living.

In the opinion of most contemporary economists the standard of living is an effective means of control over the growth of population, and the tendency among progressive countries generally is for standards to rise and to insure to the rank and file of the population ever larger command over the material conditions necessary to happy homes and happy lives. This opinion rests not only on general considerations but on the undoubted fact that the real earnings of the manual laboring class are larger than at any previous stage in the world's history. The primary cause of their improvement has been the improved methods of production that have been referred to frequently in these pages. Rising standards of living have, however, been a secondary cause, since but for them population would have kept pace with the new methods and prevented the earning capacity of the bare-handed workman from increasing. Before attempting a summary statement in reference to the influences controlling the growth of population and through it wages, it will be well to consider how the growth of capital or wealth is controlled.

The Growth of Capital.

§ 174. As in discussing the growth of population, so in discussing the growth of capital, we will begin with a brief study of the facts and consider subsequently theories touching the causes controlling capital accumulation. Unfortunately statistics in regard to the growth of capital are usually available only as they are included in statistics of wealth generally and are much less trustworthy than are statistics of population. For these reasons we will confine our inquiry to the United States. The statistics for other lands, could we examine them, would confirm the impression that those for the United States convey—that the present tendency in progressive countries is for capital to increase at a more rapid rate than population.

Increase in Wealth in the United States.

The following table gives the estimates of the total wealth of the country in its various forms in 1890, 1900 and 1912 made by the United States Census Bureau:

TOTAL WEALTH IN THE UNITED STATES
($1,000,000,000)

	1890	1900	1912
Real estate with improvements	39.5	52.5	110.7
Live stock on farms, farm implements and machinery	2.7	4.1	7.5
Gold and silver coin and bullion	1.2	1.7	2.6
Manufacturing and mining machinery and products on hand	4.4	9.0	21.6
Railroads and equipment	8.7	9.0	16.2
Street railways, telegraphs, etc.	0.7	3.5	10.3
Miscellaneous	7.9	8.7	18.8
Total	65.1	88.5	187.7
Average per capita	$1,039	$1,163	$1,968

Growth of Capital in Agriculture and Manufacturing.

These statistics are little better than rough estimates, so too much reliance must not be placed on the exact accuracy of the conclusion to which they point, that is, that during the twenty-two years covered per capita wealth increased over 89 per cent. More trustworthy are the following statistics showing the increase, for each decade since 1850, of the value of all farm property in the country and of the capital invested in manufactures.

	Value of all Farm Property ($1,000,000,000)	Increase Per Cent	Capital Invested in Manufactures ($1,000,000,000)	Increase Per Cent
1850	4.0	..	0.5	..
1860	8.0	100	1.0	100
1870	8.9	11	2.1	110
1880	12.2	37	2.8	33
1890	16.1	32	6.5	132
1900	20.4	26	9.8	51
1910	41.0	100.5	18.4	88*

From these figures it may be inferred that the wealth of the country was nearly if not quite doubled in the ten years from 1900 to 1910. As population increased only 21 per cent during the decade, the statement that capital grew more rapidly than population appears abundantly justified.

Necessary Cautions.

In interpreting these and other statistics of wealth and capital great caution is necessary. Where such statistics have been collected by the inventory method, as is attempted in the United States, important items are sure to be omitted while other items are sure to be duplicated. On the other hand, where such figures are calculated from returns as to incomes from different sources, errors may arise either from inaccuracies in the incomes reported or from mistakes in the method by which the amount of capital giving rise to incomes is inferred from the amount of incomes. Another difficulty is encountered when it is attempted to infer statistics in reference to capital from statistics of general wealth. The normal effect of an increase in capital is a decline in the rate of interest, but this serves itself to increase the value of lands, monopolies and other sources of funded incomes. It follows that as capital increases and the rate of interest falls, the apparent increase in wealth is likely to be much greater than the actual increase in economic goods. Still another source of error is in changes in the prices of goods. From 1900 to 1910 general prices were almost continuously rising and this partly accounts for the phenomenal growth of wealth credited

* From the figures for 1910 capital invested in hand and neighborhood industries was excluded. The same exclusion applied to 1900 would have made the total capital for that year $8,975,000,000, so the increase from 1900 to 1910, on a fair basis of comparison, was 105 instead of 88 per cent.

to that decade. For these and other reasons statistics of wealth and capital must be interpreted with great care if serious errors are to be avoided. We have now to consider theories as to the causes which control the growth of wealth or the accumulation of capital.

Present Goods Preferred Above Future Goods.

§ 175. Since capital goods owe their existence primarily to a willingness on the part of men to postpone consumption or to save, the increase of such goods is affected by everything which influences this willingness. What, then, are the inducements to saving and what the opposing motives for spending? The motives for spending have already been considered (Section 40). It is the tendency of men to overestimate the importance of the present in comparing it with the future, and this leads them normally to prefer present command over consumable goods to future command over goods of like kind and quantity, present gratifications to similar gratifications at some future date.

Reasons for This Preference.

Four reasons may be assigned for the above tendency. First and most obvious is the fact that provision for present necessities is the indispensable condition to the continuance of life. The shipwrecked mariner who has provided himself with subsistence for one week has no choice between consuming it this week or next month. His present need for food *must* be satisfied and *must* loom larger in his consciousness than his need at some future time. This fact prevents men from saving that portion of their incomes required for present necessities. Secondly, the future is uncertain. No man knows, when making provision for the future, that he will live to enjoy it. This was summed up in pagan philosophy in the phrase, " eat, drink and be merry, for to-morrow we die." The Christian religion also emphasizes the uncertainty of life in that it directs men to take no thought for the morrow, but to devote their days to good works and the preparation of the spirit for the immortal life to come. Either course is obviously unfavorable to the accumulation of capital. A third reason is found in man's deficiency in imagination. Present wants are actually felt, those of the future are only imagined. The consequence for the average man is an underestimate of the importance of future gratifications which makes him un-

willing to forego present pleasures on their account. Finally, a fourth reason is man's lack of resolution or will. Many who have the most vivid imaginations are, nevertheless, proverbially improvident. This is because they have not the strength of character to resist the temptations of the present and provide in advance for the needs of the future which they so clearly foresee.

Influence of These Motives Depends on Amount of Individual's Income.

These reasons combined predispose the average man to spend his income as he receives it. The proportion that he will spend depends in a measure on the amount of that income. If it is small, most, if not all, must go for present necessities. The poverty of the poor is itself the greatest obstacle to their ever becoming rich. Those who are more fortunately situated compare in their minds present comforts and provision in advance for future necessities, or present luxuries with future comforts. With an ample income even the most improvident person is likely to make some provision for the future. More prudent people are likely to save something though their incomes be small.

The Motives to Saving.

The strongest counter-motive to spending is the desire to provide for one's self and one's family after old age has come and earning power has been reduced or has failed altogether. This is important because it applies to nearly every one. Its practical consequences are reflected in the vast sums which are paid each year in progressive countries as premiums to life insurance companies.* Some of these payments secure for the family a fixed sum upon the death of the insured. A more common form of policy at present, however, is one which calls for payment of the principal after a certain number of years, even though death has not occurred. This reflects clearly the general appreciation of the fact that old age means usually diminished earning power. Next in importance to the desire to provide for old age as a motive to saving is ambition to command social esteem, power and influence. That "wealth is power" of a certain kind is a fact universally appreciated. Those who covet power at the present day are very apt to seek it through the avenue of wealth accumulation. Though less

* The annual incomes of such companies in the United States, derived chiefly from premiums, exceed $1,000,000,000.

general than the first motive, this is doubtless the dominant consideration to those men who acquire the largest fortunes. A third motive to saving is the interest which may be obtained for the use of capital, which is itself traceable to the superior efficiency of capitalistic production. Economists have tended to exaggerate this motive in declaring that "interest is the reward of saving." It is certainly not true that interest is the only reward or even the chief reward of saving, or that the greater part of the saving which now occurs would cease if the interest now paid for the use of capital were to be withdrawn. Interest is the reward of saving, however, in the sense that all those who save under present industrial conditions may, and as a rule do, receive interest as one of their compensations. Furthermore, to some of those who save interest is *the* reward that is chiefly considered, and the rate of interest has a determining influence on the amount of income they are willing to save. A fourth motive to the accumulation of capital is ambition for business success. Many of the men who succeed best in business in the United States seem devoid of other ambition. They have become absorbed in the game of making money and persist in it because it interests them more than anything else, though they have no very clear idea to what use they will put their fortunes after they are acquired. To such men business success is the all-important object, and capital is accumulated simply because it is a necessary step toward the attainment of the goal.

Progress Strengthens These Motives.

Comparing the four motives inducing men to save with those inducing them to spend, we may conclude without argument that progress tends to strengthen the first and to weaken the last. The pressure of current needs, the uncertainty of life, lack of imagination and weakness of will are all becoming less prominent influences shaping the conduct of the average man. On the other hand, desire to provide for the family, social ambition, willingness to postpone consumption for the sake of interest and ambition for business success seem on the increase. These changes are responsible for the tendency already described for capital goods to multiply more rapidly than population, for the operation of the law of diminishing returns as regards capital as a whole and

for the declining rate of interest so marked in the United States in the last one hundred years. The same tendencies are operative in all progressive countries and explain the fact that economics from being a " dismal science " has become a study from which highly optimistic conclusions may be deduced.

The Ultimate Determinants of Distribution.

§ 176. In the explanation of distribution that has been given, great importance has been ascribed to the productiveness of labor and capital in marginal industries, and it has been stated that the location of the margin of production depends upon the extent of the land and natural resources of a country in proportion to its population and capital. We have just considered the various influences that control the growth of population and of capital, and we are now in a position to indicate the ultimate determinants of distribution.

In the isolated life of a Crusoe economic conduct requires an exact balancing of the marginal gratifications, or utilities, derived from consumption and the marginal sacrifices, or disutilities, involved in production (Section 53). Work should be carried to that point at which pleasure ceases to compensate for sacrifices and at that point it should stop. In industrial society economic relations are vastly more complex. Marginal utilities are calculated, not by each individual separately, but by groups of individuals. Marginal disutilities include not merely effort, but also postponed consumption. They also are calculated, not by each individual separately, but by groups of individuals, some of whom contribute the efforts necessary to production and others the waiting necessary to the existence of the capital goods indispensable to efficient production. In explaining distribution we started with the valuations which consumers place upon goods and analyzed the causes which control the division of the values so determined among the factors which coöperate in production. But consumers are as a rule themselves producers. Like Crusoe, though in a less simple and direct way, they compare the utilities of the goods they consume with the disutilities connected with the part they play in production. This is not true of consumers whose wealth comes to them because they control sources of fixed income, since such per-

sons make little or no present sacrifices as a condition to securing command over purchasing power. Nor is it true of consumers who receive interest for capital they have accumulated, not in order that they may secure interest, but in deference to one or more of the other motives that have been described. Such consumers also make no present sacrifice in return for the purchasing power they receive. Nor is it true of workmen who find their work a pleasure and whose hours are fixed not by calculations of marginal disutility which they themselves make, but by standards determined by the weaker members of the industrial groups to which they belong.* It is true, however, of capitalists who are just induced by the promise of the current rate of interest to save and invest in preference to spending. Such men balance the marginal utilities of the goods which the interest will enable them to command against the marginal disutility of deferring consumption. It is also true of the marginal workmen in each group who determine by their calculations the length of the workday for their class. For them the marginal disutility of the final hour's labor is a painful reality which they balance in their minds against the added goods which the pay for this last hour enables them to command. If the balance is on the negative side they are ripe for a strike for a shorter workday, and if their feelings are the feelings of their group they are likely to secure it.

The Balancing of Utilities Against Disutilities.

Besides the calculations which determine the accumulation of capital and the length of the normal workday, there are others which fix standards of living and through them influence the rate at which the working population increases. To maintain wages men in different industrial groups incur the sacrifices involved in a postponement of marriage or restriction of births after marriage, and in the long run these sacrifices are compensated, and only just compensated, so far as the standard of living controls wages, by the higher earnings which such conduct insures to the class benefited.

A full analysis of the motives that enter into the balancing

* For example, many a mechanic who limits his work to eight hours a day, would gladly work an additional hour for proportionate pay, but is prevented from so doing by loyalty to the rule of his union.

of utilities and disutilities in industrial society, and of the equilibrium that results from them, belongs to a more advanced treatise on economics. In actual progressive societies changes occur so frequently that an exact balancing is something constantly aimed at, but never secured. In men's efforts to realize it, the ultimate determinants of value and distribution are, however, to be sought.

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CHAPTER XIX

MONEY AND THE MONETARY SYSTEM OF THE UNITED STATES

The Disadvantages of Barter.

§ 177. As has already been pointed out (Section 85) every extension of coöperation and the division of labor, beyond the simple division of tasks possible within the family, must be accompanied by a corresponding development of the system of exchange. The simplest kind of exchange is barter; but this has serious drawbacks, since it can take place only when two traders come together, each having in his possession a commodity preferred by the other. Even this situation will not lead to an exchange unless the parties can agree as to the terms of the bargain. Thus, under the system of barter, the American Indian with a pony to dispose of had to wait until he met another Indian who wanted a pony and at the same time was able and willing to give for it a blanket or other commodity that he himself desired. Even when pony and blanket came together an exchange through barter might be prevented by the fact that one of the owners thought his commodity worth somewhat more than that of the other. Neither pony nor blanket could be divided without loss in value, and in consequence higgling over the trade would be quite as likely to lead to a quarrel as to a transfer of property.

The Nature and Functions of Money.

The inconveniences connected with barter led, at an early period in the history of civilization, to the introduction of a medium of exchange, or *money*. Although no exact account of the steps preceding this important innovation has been preserved, it is not difficult to reconstruct in imagination the circumstances which determined the choice of the medium of exchange and caused it gradually to come into general use. Inability to barter surplus products for the exact commodities desired must have suggested the feasibility of bartering them for other products that were in more general demand, more

durable or for some other reason *more exchangeable.* Thus the owner of surplus game who was unable to get for it the arrow-heads he desired, would be glad to accept instead some durable ornament generally prized in the community, such as a string of beads. His chance of exchanging this for arrow-heads would be excellent, and would certainly be preferred to the prospect of having his game spoil on his hands. In some such way commodities must have come to be distinguished, even in primitive communities, by reference to their exchangeability, and the most exchangeable commodities must gradually have come to be used as media of exchange.

Money a Standard of Value.

Quite as important as a medium of exchange to the development of an industrial community is a standard, or common denominator, by means of which the values of commodities may be compared. Without such a standard the value ratio between each commodity and every other dealt in must be remembered by the trader. For example, if he deals in ten commodities there will be forty-five ratios of exchange to be remembered. The use of a standard of value enables him to substitute for these forty-five possible exchange ratios the nine ratios between the selected commodity and the others. The smaller number of ratios under the new system tell exactly the same story as the larger number did before. Thus, instead of remembering that a string of beads is worth four deer, that two deer are worth an arrow-head and that two arrow-heads are worth a string of beads, it suffices for the trader to remember that a deer is worth one-quarter, and an arrow-head one-half of a string of beads. To serve as a standard, or common denominator, of value is a second function of money, and to fulfil it, as to fulfil the first, the commodity selected for the purpose must possess in high degree the quality of exchangeability.

Also of Deferred Payments.

In addition to serving as a medium of exchange and a standard for comparing exchange values, money, or the monetary unit, serves in modern industrial communities as the medium for credit transactions, or deferred payments. Promises to pay in the future for value received in the present are habitually expressed in terms of money. To serve as a standard for deferred payments is thus money's third function.

Prices and the Value of Money Vary Inversely.

§ 178. Price, as already explained, is exchange value measured in terms of money. In the United States and other gold-standard countries prices express the value ratios between the commodities priced and gold. To say that a bushel of wheat is worth $1 is equivalent to saying that a bushel of wheat will exchange for 23.22 grains of pure gold, since this is the standard dollar of the country. If the price of wheat should rise to $1.25 (*i. e.*, to 29.02½ grains of pure gold), the value of gold measured in terms of wheat will have fallen correspondingly. One dollar, or 23.22 grains of gold, will now exchange for only four-fifths of a bushel of wheat. Thus every change in price registers a reciprocal change in the exchange value of gold measured in terms of the commodity priced. To determine whether any given change in prices was due to a change in the value of the commodity, or in the value of gold, the standard money, it would be necessary to make a general comparison in which all important commodities were included for the two periods. If it should be found through such a comparison that while the price of wheat rose other prices remained constant or fell, it might fairly be concluded that the value of gold had not fallen and that the change was due to a rise in the value of wheat. If, on the other hand, the comparison showed that the prices of all or nearly all commodities had risen together, as has been the case in recent years in the United States, the conclusion would necessarily be that the value of gold had fallen.

Stability of Value Necessary to a Good Money.

Some writers describe money as the measure of values, but it is evident that as a measure it is not in the same class as a foot-rule or a bushel. It is a convenient standard for comparing values or a common denominator to which all values may be reduced; but as a measure of values in any absolute sense it is untrustworthy, since it is itself variable in value. This variability is a source of annoyance and loss to the business community, and hence stability of value is one of the qualities most essential to a good money.

Various Commodities Have Served as Money.

§ 179. Present-day monetary systems are the result of an historical evolution. In the past, in different countries, nearly every kind of commodity has served as money. The ox is the standard of value referred to in the earliest literature

of Greece and Rome. In Africa cubes of salt have been used. Tea was used at one time in parts of Asia. In America the Indians used strings of beads, which they called wampum, and for a time wampum was also used for small payments among the colonists of New England. In Virginia tobacco long served as the standard of value, and efforts were made to fix by law the value ratio between it and the coins which found their way to the colony from Europe. As a result of experiment, all civilized countries have now come to the use of the metals as money, and all of the more important commercial countries have fixed upon gold as their standard and relegated other metals to a subordinate position in their monetary systems. The reasons for the preference for gold become clear from a consideration of the qualities which should be possessed by a good money.

Qualities of a Good Money.

Economists quite generally agree that the commodity selected to serve as money should have the following qualities: (1) value, (2) durability, (3) portability, (4) homogeneity, (5) divisibility, (6) cognizability and (7) stability of value. That the commodity which is to serve as the intermediary between valuable things must itself have value is obvious. This value may be to some extent independent of the monetary use, as in the case of gold coin, or entirely derivative from the monetary use, as in the case of paper money. Durability is important because after each exchange transaction the medium of exchange must remain for a longer or shorter time in the possession of the seller. Unless it is durable, it will depreciate during this interval to the seller's loss. This consideration precludes the use of perishable articles as money and accounts for the world's preference for the metals. Portability is indispensable to the convenience of a medium of exchange. Other things being equal, the commodity which compresses the greatest value in the smallest bulk is the most economical medium of exchange for large transactions. In this respect gold is superior to silver and this accounts in part for the preference for it of leading commercial nations. Homogeneity and divisibility are related qualities, since together they insure that the commodity used as money may be divided and subdivided without loss in value. These quali-

ties also distinguish the metals. Cognizability is important as it renders difficult the circulation of counterfeit money. One objection to silver is the resemblance to it of the baser metals, lead and tin. The last quality, stability of value, is essential in connection with the function which the monetary unit performs as a standard of deferred payments. In the absence of such stability creditors and debtors have no guarantee that the contract between them calling for the payment of a certain sum of money at a future date will involve the return of a value equivalent to that loaned. If the value of money rises in the interval the debtor will be injured, if it falls the creditor will receive less than he anticipated. Either event must discourage transactions involving such an uncertain element, and it is for this reason that the importance of stability of value in the commodity which is to serve as money can hardly be exaggerated. As regards this quality also gold has a marked superiority over most other things. The demand for it is very elastic because it serves such a variety of different purposes. It is highly prized for ornament; it is used in watch-cases, family plate, etc., as a badge of social position; it serves important industrial uses in connection with dentistry, etc., and finally it is now so widely used as money that the monetary demand for it is large. On the side of supply the conditions are equally favorable to stability of value. Because it is precious and at the same time durable, the greater part of the total quantity produced, at least in modern times, has been preserved and is still available to satisfy current needs. In proportion to the total stock (estimated at $16,000,000,000) the annual addition to the supply due to production is insignificant. The supply is thus practically constant over short periods and is little affected by variations in the annual output of the world's mines. Elasticity of demand and constancy of supply, the conditions favorable to stability of value, are thus presented by gold as by no other commodity. This is the final reason for the world's preference for it to serve as its standard money.

§ 180. The choice of the medium of exchange and standard of value was a subject which early engaged the attention of organized governments. They did not create the monetary

systems that are found to-day, but they gave them a legal sanction which has added materially to their efficiency. Laws at present control the monetary systems of civilized countries in two vital respects: they declare what forms of money shall be a legal tender, that is, shall be accepted in legal payment of all obligations calling for money, either between individuals or between the state itself and its subjects; and they determine the conditions under which these forms of money and other media of exchange that serve the convenience of the business community shall be manufactured and put into circulation.

The Rôle of the Government in Regulating the Monetary System.

The manufacture of metallic money is called coinage and has become a government monopoly in all advanced countries, for the simple reason that this has been found by experience to be the surest means of maintaining a perfectly reliable coinage system. At first coining consisted merely in stamping the head of the sovereign and an indication of the weight of the coin on one of the faces of a flat disc of metal. So long as this only was done, it was necessary at every transaction to weigh the pieces of money offered in exchange to make sure that they had not been "clipped" since leaving the mint. This necessity was obviated by the second step in the progress of coinage, which was to stamp the reverse face of the disc of metal. A third step consisted in "milling" the edges of the coin and thereby rendering it impossible to trim it without detection. At the same time that these improvements in the process of coinage were made, stringent regulations were passed forbidding the mutilation of coins, and requiring those having in their possession pieces whose weight had been reduced below a certain standard to return them to the mint, so that they might be remelted and reissued at full weight. Withdrawing the character of legal money from "light" coins has proved a simple and effective method of enforcing this last provision. In addition to coins, most modern governments issue one or more kinds of paper money. Although devised originally as a means of securing revenue, paper money, on account of its convenience, has won for itself a permanent place among the media of exchange preferred by intelligent business communities. Engraving and printing paper notes have thus become as important a function of

Coinage and the Printing of Paper Money.

government as minting coins, and quite as great progress has been made in manufacturing notes that are at once durable and so cognizable as to defy the ingenuity of counterfeiters.

The Three Kinds of Money: Standard.

In the monetary systems of most modern states three different kinds of money may be distinguished—standard, token and credit money. Standard money is that to the value of which the values of all other kinds of money in circulation are adjusted. It may be made self-regulating by having the law declare that a certain weight of the metal selected for the standard shall constitute the standard coin and permit all persons bringing such metal to the government mints to have it converted into coin either gratuitously or on the payment of a small fee, called seigniorage. This system is designated " free coinage," and has been adopted by all the more important commercial nations. Alternative to it is the system of " fiat " money, that is, money issued on the authority of the government and made to circulate by being declared a legal tender. Such money is usually accepted at the outset with some misgiving, but after a time people become accustomed to it, and if the amount issued is controlled so that there are no violent changes in the value of the monetary unit, it may serve nearly as well for ordinary transactions as self-regulating money.

Token.

Token money is money which is issued for use as small change in connection with minor transactions. It is usually made of a baser metal than the standard and put out in just the quantity that suits the convenience of the business community.

Credit.

Credit money supplements standard, and is issued on the credit of the government. It is redeemable in standard coin on demand, and differs from token money only in that it is designed to serve as a medium of exchange for large as well as small transactions. As business communities learn to appreciate the superior convenience of paper money, the field for credit money steadily widens. In the United States a stage has already been reached where credit and token money constitute, with credit substitutes for money such as checks and drafts, practically the entire actual medium of exchange of the country.

§ 181. From early times governments have struggled to keep

different kinds of money in concurrent circulation. The ill success of such efforts led in the sixteenth century to the formulation by Sir Thomas Gresham, one of the advisers of Queen Elizabeth, of the principle known as "Gresham's Law." This is to the effect that when two or more kinds of coin circulate concurrently, the kind which is worth more as money than as bullion tends to drive out of circulation the kinds that are worth more as bullion than as money. In other words, cheaper tends to drive dearer money out of circulation. This is very like asserting that poor money tends to drive out good and calls for careful explanation.

Gresham's Law.

An illustration will help to make clear the reasons back of Gresham's Law. In 1792 the Congress of the United States passed a coinage law adopting the bimetallic system. Both gold and silver dollars were made full legal tender, and the Secretary of the Treasury was instructed to coin both metals freely for all applicants and to put fifteen times as much silver into the standard silver dollar as he put of gold into the standard gold dollar. This is conveniently expressed by saying that the law provided for a mint ratio of 15 to 1. Some time after this act went into effect the market or commercial ratio between silver and gold became $15\frac{1}{2}$ to 1. The situation then was that our mint coined bullion into money, making an ounce of gold equivalent to fifteen ounces of silver, while in the world's market an ounce of gold was equivalent to $15\frac{1}{2}$ ounces of silver. Since silver coin was made by law just as good money as gold within the limits of the United States, it was under these circumstances the cheaper medium for the payment of debts within the country. Moreover it was profitable to export gold coin, exchange it for silver bullion, import this and have it coined into the overvalued silver money. For this reason such gold as was coined was, in accordance with Gresham's Law, driven from circulation, and the country was brought to the cheaper silver standard.

Illustrated from Monetary History of the United States.

The above demonstration of Gresham's Law may seem to prove too much. If silver drove out gold after 1792, why, it may be asked, does it not now drive out gold, and why does not paper money drive out both gold and silver? The reason is not far to seek. Gresham's Law describes a tendency.

Application to Present Monetary System.

After 1792 that tendency was quickened into active life because the free coinage of silver opposed no obstacle to the substitution of the cheaper for the dearer money, so long as any gold remained in circulation. To-day the tendency is dormant because the quantity of silver and paper money put into circulation is rigidly limited, and is far from sufficient to meet the monetary needs of the country. This cheaper money, at the time it was first issued, did displace gold; but obviously it could not drive out more dollars than it could itself replace. The limitation on its supply permits a good deal of gold to remain in circulation. Gresham's Law still operates, however, as every bullion broker knows, since whenever gold is to be exported, great pains are taken to select only full-weight coins for shipment. Legislation which should lead to an increase in the volume of silver or paper money in circulation, would serve to increase the exportation of gold coins, and, if the increase in the cheaper forms of money was sufficiently great, it would cause light as well as full-weight coins to be withdrawn until no gold was left in circulation.

The Adoption of the Gold Standard in Europe.

§ 182. In adopting the bimetallic system in 1792 the United States simply fell in with the general practice of European nations at that period. That system has since been given up as the result of the conviction impressed upon one country after another that gold and silver cannot be kept in concurrent circulation at any arbitrarily established mint ratio. England was one of the first countries to arrive at this conclusion, and adopted the single gold standard in 1816. On the continent the struggle to maintain a double standard was continued until the third quarter of the last century. Finding it difficult to keep both gold and silver in circulation at a parity without the coöperation of other nations, France and some of the other states of Southern Europe established in 1865 the so-called Latin Union, which had this for one of its principal objects. From 1803 to 1873, France and the Latin Union succeeded in keeping both gold and silver in circulation at their established mint ratio of 1 to $15\frac{1}{2}$. During the entire period the market ratio between the two metals varied so slightly from this mint ratio that an ounce of gold

was never worth more than 16¼ ounces of silver (1813) nor less than 15.19 ounces (1859). In 1873 several circumstances united to compel the Latin Union to abandon the policy which it had so long upheld. Chief among these was the increased production of silver, due to silver discoveries in America, which lowered the value of that metal and caused its substitution on a large scale for the countries' dearer gold coin. Seeing their gold disappearing from circulation and fearing that they would be brought to the cheaper standard, the countries of the Latin Union decided in 1874 to limit the coinage of silver, and in 1878 to close their mints altogether to the free coinage of that metal. By this action they maintained their dearer standard, which was thenceforth gold. About the same time (1871-73), Germany adopted the single gold standard by limiting the coinage of silver so that the silver money in circulation should never exceed ten marks per capita. Holland, Norway, Sweden and Denmark were not slow to follow the example of their southern neighbors. More tardily Austria-Hungary (1892-1902) and Russia (1896), which for several years had had depreciated paper currencies as their chief media of exchange, accumulated sufficient gold to establish securely the gold standard. Thus at the end of the nineteenth century all of the important nations of Europe except Spain had the gold standard in actual operation.

Its Adoption Outside of Europe.

Outside of Europe a similar development was in progress during the same period. The British dependencies, Canada, Cape Colony and the States of Australasia, have long been on the gold basis. India suspended the free coinage of silver in 1893, and by 1899 had accumulated enough gold in London to maintain the silver coin, which continued to be the principal medium of exchange of the country, at a fixed parity with the gold coinage of England (15 rupees = £1). Gold thus became the country's real standard of value. Japan adopted the single gold standard in 1898. At the close of the nineteenth century only China and Mexico, among the important nations of the world, remained on the silver basis, and both of these countries are contemplating measures to establish a fixed parity between their silver currencies and gold in some such manner as did India in 1899. Gold has

thus become the standard of value of practically the entire commercial world.

Monetary History of the United States.

§ 183. As already explained, the first coinage law of the United States gave the country a mint ratio so unfavorable to gold that silver became in time its actual standard of value and medium of exchange. It was not until 1834 that Congress attempted to change this situation. In order to bring gold back into circulation, acts were passed in that year and in 1837 establishing the present mint ratio between gold and silver, which is 1 to 15.988.* The standard silver dollar was to contain 371.25 grains of pure silver as under the act of 1792, and the standard gold dollar 23.22 grains of pure gold. Both were to be nine-tenths fine. This new ratio undervalued silver nearly, if not quite, as much as the former had overvalued it, since the commercial ratio between gold and silver continued to be about 1 to 15½. In obedience to Gresham's Law, silver now disappeared from circulation and gold became the real standard of value of the country. This situation continued down to the time of the Civil War. During that struggle United States notes, or "greenbacks," were issued in excessive quantity, with the result that gold also disappeared from circulation and the country was brought to a paper standard. Thus when the war closed, and for some years thereafter, neither gold nor silver, except the subsidiary coin used for small change, was in circulation. In 1873, after considering the subject during successive sessions, Congress passed a law omitting the standard silver dollar from the list of authorized coins. At the time this action, "the crime of 1873," attracted little attention, but a few years later, when the question of resuming specie payments was under consideration and silver producers were suffering from the decline in the gold price of their product, there arose a violent agitation for the remonetization of silver. In 1878 Congress passed what was known as the "Bland-Allison Act," which reintroduced the silver dollar and required the Secretary of the Treasury to purchase monthly from $2,000,000 to $4,000,000 worth of silver bullion and coin it into standard dollars. The

* The "16 to 1" which played such an important rôle in the presidential campaign of 1896.

gold price of silver continued to fall, and this led in 1890 to the enactment of a second law, known as the "Sherman Act," which required the Secretary of the Treasury to purchase monthly 4,500,000 ounces of fine silver so long as the market ratio between silver and gold should be less favorable to silver than the mint ratio, and to pay for it by the issue of so-called Treasury notes redeemable in coin and possessing full legal-tender power.

The Gold Standard Law.

As a result of the Bland-Allison and Sherman Acts the government accumulated a vast hoard of silver out of which as many as 568,278,020 standard silver dollars will eventually be coined. Of these, less than 82,000,000 have ever been in circulation at any one time because of the awkwardness of the silver dollar as a medium of exchange. The remaining dollars have been represented by silver certificates, redeemable in silver dollars on demand, and Treasury notes. The result of this large increase in the silver currency of the country was a proportionate withdrawal of gold from circulation. This proceeded so rapidly after the passage of the Sherman Act that serious fears were entertained lest the gold standard, which had been re-established January 1, 1879, should be displaced by a cheaper standard. In March, 1893, a special session of Congress was called by President Cleveland for the sole purpose of repealing the purchase clause of the Sherman Act, which was finally done in October of that year. After much further agitation, the logical sequence to this policy followed on March 14, 1900, when Congress passed a law definitely affirming that gold is the standard of value of the country.

Present Monetary System of the United States.

§ 184. On November 1, 1916, there were in the United States ten different kinds of money, of which the amounts as reported by the Secretary of the Treasury were as follows: gold coin (including bullion in the Treasury), $2,700,136,976; (gold certificates, $1,770,202,919);* standard silver dollars, $568,270,319; (silver certificates, $479,021,918);* subsidiary coin, $189,695,716; (Treasury notes of 1890, $2,049,231);*

* The gold and silver certificates and Treasury notes are placed in parentheses because they stand for gold coin and silver dollars included in the first and third items.

United States notes, $346,681,016; Federal reserve notes, $238,496,920; Federal reserve bank notes, $10,928,250; and national bank notes, $726,069,290. The total money supply of the country was, therefore, $4,780,278,487, of which $320,441,568 was held in the Treasury as assets of the government. This resulted in a per capita circulation of $41.18.

Maintenance of Parity of Value Between Gold Coin and Gold Bullion.

As already stated, it is the monetary policy of the United States to maintain an exact parity between the value of its gold coin and the value of the gold in such coin and between the value of gold money and the seven other varieties of money enumerated. The parity in value between standard gold coins and the gold of which they are made is maintained automatically by the free convertibility of one into the other. Thus, if there is any tendency for the dollar to become worth more than 23.22 grains of pure gold, the new gold that is constantly coming on the market and the old gold that is constantly being given new forms will, under the gold coinage system, which is gratuitous as well as "free," be coined into dollars until the tendency has been checked. On the other hand, if there is any tendency for 23.22 grains of gold to be worth more as bullion than the dollar into which they are coined, gold coins will be used as bullion and thus this tendency will be checked. By these simple means the gold standard is maintained so far as the relation between gold coin and gold bullion is concerned.

Between Gold and Silver Coin.

§ 185. The maintenance of the parity in value between gold coin and the other varieties of money is a more complicated matter. Gold certificates are kept at par by the fact that they are redeemable at the pleasure of the holder in the gold coin in exchange for which they are issued, and which is held in the Treasury as a trust fund. Standard silver dollars, which, like gold coin, possess full legal-tender power, and the silver certificates based on them, are kept at a parity with gold because they, too, are freely exchangeable at the United States Treasury for gold or any other form of money that is desired. There is no law expressly requiring their redemption in gold, but laws have over and over again affirmed it to be the settled policy of the United States to maintain a parity between its gold and silver coins, and prompt redemp-

tion of one in the other has long been recognized as the only sure way of maintaining such parity. The ability of the Secretary of the Treasury to pay out gold in exchange for silver depends, of course, upon a limitation on the amount of silver that is put into circulation. As the law now stands, no more silver dollars may be coined. The $568,270,319 which remain in the country, represented in the circulating medium for the most part by the $479,021,918 of silver certificates and the $2,049,231 of Treasury notes outstanding, will be continuously needed for the country's retail trade. So long as this limitation is adhered to, the redemption of silver dollars, silver certificates, and Treasury notes is not likely to cause the government any embarrassment. Minor coins are kept at a parity with gold because they also are redeemable in standard coin, and because there is a constant demand for the limited quantity of such coins issued.

Between Gold Coin and Paper Money.

The United States notes and the Treasury notes of 1890, although so different in their origin, are now on the same footing so far as their monetary use is concerned. Both are a legal tender and both are now redeemable in gold. The United States notes, or greenbacks, which were issued in excess during the Civil War, were restored to a parity with gold by the resumption of specie payments, January 1, 1879. The amount of this currency, which was at one time nearly $450,000,000, had been reduced to $346,681,016 by May 31, 1878, when an act, which is still in force, requiring this quantity to be kept in circulation, became effective.

The Gold Reserve.

After 1890, when the excessive issue of silver currency threatened to deplete the country of its gold, the United States notes were the convenient means used by bankers to secure that metal from the Treasury. As, at the same period, the government's revenues were insufficient to meet its current requirements, the Secretary of the Treasury was compelled to pay out the notes almost as fast as they were redeemed, and this permitted their repeated use for the same purpose. The act of March 14, 1900, was designed to prevent the recurrence of a similar situation. It provides for a special gold reserve of $150,000,000 to be set aside by the Secretary of the Treasury for the exclusive purpose of redeeming on demand United

States notes and Treasury notes. The redeemed notes are to be used only to maintain the gold reserve either through exchange for free gold already in the Treasury or through the purchase of gold bullion " at such rates and upon such terms as may be deemed most advantageous to the public interest." The law provides further that when the gold reserve falls below $100,000,000 the Secretary of the Treasury shall restore it to $150,000,000 by borrowing money at 3 per cent or less on the credit of the United States. The redemption of these two forms of money in gold is thus assured so long as the credit of the United States is not itself impaired.

Bank Notes.

The national bank, Federal reserve, and Federal reserve bank notes, the last varieties of money to be considered, are kept at a parity with gold by being made redeemable in legal money both at the Treasury and over the counter of the issuing bank.

Stability of the Gold Standard.

As a result of these various expedients, all of which reduce to the ready convertibility of the token or credit money concerned into gold coin, all kinds of money in circulation in the United States are kept at a parity. So long as the issue of token and credit money is restricted within its present limits there seems little ground for anxiety in regard to the maintenance of the present gold standard.

Defects in Monetary System of the United States.

§ 186. The monetary system of the United States, notwithstanding the important reforms effected by the Federal Reserve Act of 1913, remains imperfect in three important respects. First, there has been an excessive coinage of silver dollars and hundreds of millions of those now in existence serve no useful purpose whatever. Second, the elastic Federal reserve notes, created by the Federal Reserve Act, have rendered the inelastic and otherwise unsatisfactory national bank and Federal reserve bank notes superfluous. Third, the gold standard itself falls short of the requirements of an ideal monetary system. We will consider immediately possible remedies for the first of these defects. The others are discussed in the next two chapters.

The Function of Token Money.

Of the ten kinds of money of the United States, gold coins alone are standard money. Minor coins and silver dollars are token money. The seven varieties of paper dol-

lars are credit money. The function of standard money in a monetary system has already been indicated. Token money performs a supplementary function that is readily understood. Owing to their small size in proportion to their value gold coins are not suitable for small change. Even gold dollars were found unsatisfactory in the United States and their coinage was suspended in 1890, since which time the quarter eagle ($2.50) has been the smallest gold coin even nominally in circulation. It is the function of token money to supply convenient coins of the small denominations needed in retail trade. The experience of each country must determine what token coins best suit the convenience of its business public, but there are certain principles that may be laid down which are of general application: (1) The issue of token money should be limited to the actual requirements of retail trade, and to insure this result and the maintenance of the parity between token and standard money, the law should provide for the ready convertibility of one into the other. (2) Since the value of token money depends upon the demand for it and upon its ready convertibility, the value of the bullion contents of such money is of slight importance in comparison with its being readily cognizable and convenient in size and weight. In fact, the only good reason for keeping the face value of token coins from exceeding the value of the bullion they contain, plus the expense of their manufacture, by too large a margin, is that this is the easiest way to prevent counterfeiting. A serious objection to the silver dollars of the United States, regarded as token money, is that their bullion is now so much less than their coin value that a handsome profit might be made by manufacturing silver dollars of standard weight and fineness and in every respect as good as those manufactured by the government. This offers entirely too attractive a field for the ingenuity and daring of counterfeiters. (3) On the other hand, the margin between the bullion and coin value of token coins should be wide enough to allow for considerable variations in the bullion value. Only in this way is it possible to avoid the danger that such coins may come to be worth more as bullion than as money and be withdrawn from circulation.

Are Half-cent Pieces Needed?

The token-money system of the United States, except as regards the excessive coinage of silver dollars, conforms fairly well to the above principles. The minor silver coins issued are the half-dollar, the quarter and the dime. These are a legal tender in payments of ten dollars or less and, as already explained, are redeemable in standard money at the pleasure of the holder. The other coins issued are the nickel five-cent piece and the copper cent, which are a legal tender in payments of twenty-five cents or less, and likewise redeemable in amounts of twenty dollars or multiples thereof. The most striking difference between this system and the systems of European countries is the relatively high value of the coin of lowest denomination which it includes. The smallest coin of Great Britain is the farthing ($\frac{1}{2}$ cent), of Germany, the pfennig ($\frac{1}{4}$ cent) and of France, the centime ($\frac{1}{5}$ cent). The rising cost of living in recent years has called attention to this difference as a defect in the American system. It is urged that the addition of the half-cent to the present coins would enable persons with small incomes to be more economical in their expenditures and on this ground it is quite probable that Congress will authorize such a change in the near future.

The Useless Silver Hoard.

§ 187. Much more serious than the lack of half-cent pieces is the coinage of silver dollars far in excess of the country's present or prospective needs. On November 1, 1916, there were in circulation only 70,351,734 silver dollars. It is highly probable that the preference for paper dollars which has caused silver dollars practically to disappear from circulation in the Eastern States will gradually spread to other parts of the country. Fully 500,000,000 of the 568,270,319 silver dollars in existence, mostly as a redemption fund in the Treasury, will soon be serving no useful purpose whatever. Stored in the vaults of the Treasury at Washington these superfluous silver dollars not only represent so much dead capital but are an actual source of expense, as they must be laboriously counted along with the other assets of the government with every change in administration.

Nominally, of course, these silver dollars are the security back of the silver certificates which circulate in their stead but really they contribute nothing to the acceptability of

these certificates. It is confidence that the government will redeem them in gold and the need there is for small bills to carry on the country's trade, not the prospect of getting in exchange for them silver dollars, which no one wants, that maintain these certificates at par with other kinds of money.

Objections to Sale of Silver Dollars as Bullion.

Two plans have been suggested for disposing of these surplus silver dollars. The simplest is to withdraw and cancel the silver certificates that find their way into the Treasury at the rate of a few millions a month and convert an equal volume of silver dollars into bullion to be disposed of at the discretion of the Secretary of the Treasury. The chief objection to this plan is the large loss in the nominal assets of the government which it would entail, since not much more than forty cents could be recovered from the sale of the silver for every dollar in silver certificates destroyed.

Remedy Advocated.

The second plan proposes to avoid this loss by substituting for the canceled silver certificates United States notes and at the same time adding the proceeds derived from the sale of the silver bullion to the legal gold reserve. If the sale of the 500,000,000 silver dollars as bullion brought in $200,000,000 in gold this would increase the gold reserve to $350,000,000, at the same time that the credit money secured by this reserve was increased to some $847,000,000. The new reserve would thus be considerably in excess of one-third of the new liability, and as the greater part of this liability would be in the form of small bills which are continuously needed in connection with the retail trade of the country, there seems every reason to believe that it would be as adequate as is the present reserve against the present liability.

Objectors to this plan are chiefly those who distrust every form of credit money except gold certificates protected by a dollar for dollar gold reserve. But such extreme distrust rests rather upon sentiment than upon reason. Credit money has as legitimate a place in a monetary system as has token money, but its issue must be regulated with greater caution since its use is not confined to small change transactions and there is no simple way of telling when a country has all that it can safely use. Its function is, of course, to economize the use of standard money by serving as a convenient substitute for it.

The business community in the United States has a decided preference for paper notes over coin. It prefers gold certificates to the actual gold, and it will accept United States notes as readily as gold certificates provided it is assured that they will be redeemed in gold on demand. Under these circumstances there seems to be no good reason why the government should not continue United States notes in circulation in moderate amount, provided it maintains an adequate gold reserve to insure their redemption and machinery for increasing this reserve promptly should some extraordinary emergency render this necessary. The system was subjected to a severe test in the autumn of 1907 when there was an almost complete collapse of commercial and bank credit. That there was no unusual demand on the government's gold reserve at that time is conclusive proof that the issue of credit money in the volume now outstanding has not weakened the soundness of the country's monetary system. In the opinion of the author, increasing the issue of credit money by substituting United States notes for silver certificates, as proposed above, while at the same time increasing the gold reserve by adding to it the proceeds derived from the sale of the surplus silver dollars, would really tend to strengthen the monetary system by making it simpler and more rational. It is the remedy for this defect which seems to meet most fully the different requirements of the situation.

REFERENCES FOR COLLATERAL READING

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CHAPTER XX

CREDIT AND BANKING

§ 188. Credit, or a promise to pay at a future time for a valuable consideration received in the present, is probably as old as the practice of exchange. The only condition essential to its use is confidence on the part of the creditor that the promised payment will be made when due, and this must have been among the earliest fruits of social intercourse. With every increase in the mutual confidence which binds together the members of business communities a larger field has been opened to credit, until at the present time there is hardly a business man who does not figure daily either as a creditor or a debtor in some credit transaction. **The Nature of Credit.**

With the introduction of money as the medium of exchange, the custom arose of using the monetary unit as the medium of credit, or of deferred payments. This is now so universal that little or no exaggeration is involved in defining credit as "a promise to pay money." The written forms in which promises to pay money are drawn up are conveniently designated as "credit instruments" or "credit paper."

Like most of the terms of economics, "credit" is used in other senses than that chosen for definition. Business men talk habitually of "having credit" and of "giving credit." To have credit is to enjoy a reputation for integrity which inspires confidence or to possess property that may be pledged. To give credit, on the other hand, is to accept another's promise to pay in exchange for a valuable consideration. It is obvious that business men will "give credit" only to those who "have" it and that both are necessary to the existence of negotiable credit instruments.

§ 189. Of all forms of credit the simplest is verbal or book credit, resorted to whenever a purchaser has things "charged." Its use has many advantages. In agricultural **Book Credit.**

communities in which incomes are received only at annual intervals when the crops are ready for sale, book credit at the country store enables the farmer to secure supplies for himself and his family during the periods between harvests. In a similar way, in factory towns and cities where wages are paid by the month, book credit is indispensable to the maintenance of many workingmen's families during the intervals between pay days. More important, because more clearly beneficial, is the use of book credit in connection with large retail stores, where it obviates the necessity for small payments. The extent to which book credit serves as a medium of exchange in the United States can only be guessed at, but it is believed that it figures in connection with fully one-half of the wholesale and retail transactions that take place.

In agricultural districts it is not unusual for the merchants who sell on credit to be themselves purchasers of their customers' products. Where this is the case debts contracted during the year may be canceled by credits secured when the crops are sold and book credit may serve as the sole medium of exchange. More commonly the use of book credit simply defers payment until settlement day, when some other medium of exchange is called in to balance the account. Generally this other medium is some form of credit created by a bank, such as a check or a draft.

Description of Banking Business.

§ 190. A bank is an institution which deals in money and credit. It receives deposits; pays them out again on the written order, or "check," of the depositor; sells "drafts" or orders for money on its correspondents in other places; lends at interest money, deposit credits or its own "bank notes"; "discounts" notes and bills of exchange; sells "foreign exchange" or drafts on its correspondents abroad, and sometimes provides safety-deposit boxes for the storage of valuable papers. In addition to commercial banks, like the national banks in the United States, to which the above description applies, there are other banking institutions which perform only a limited number of these functions and combine with them others that do not fall strictly within the field of banking. Such are savings banks and trust companies.

Historically, lending is an older banking function than borrowing. Thus the Bank of England was incorporated in 1693 primarily for the purpose of lending to the government £2,000,000 at 8 per cent interest. The capital necessary to carry through this operation was subscribed by merchants of London, who soon fell into the habit of intrusting their surplus funds to the bank and of borrowing from it themselves when occasion required. As the deposits of a commercial bank must be repaid on demand, the practice of lending the deposits as well as the capital of a bank was at first looked upon as a dangerous innovation. Experience has shown, however, that although all depositors have the right to withdraw their deposits on any given day, in practice only a small portion of them will do so. By lending money for short periods and arranging loans so that a certain proportion of them become due each week, a modern bank is able to lend at interest from two-thirds to three-fourths of its deposits without running any serious risk of becoming bankrupt. Of course, to continue this policy, it is necessary for a bank to command the confidence of its depositors. If they are suspicious or timid, some slight circumstance may start a "run on the bank," which may prove fatal, since no bank can do a profitable business and at the same time be in a position to repay at any time all of its depositors. Banking thus depends for its success more than any other business upon the confidence which customers have in those directing the enterprise. It is this confidence that attracts deposits. The same confidence holds them after they have been made and enables the bank to turn them to profitable account. The confidence of other banks, finally, may preserve a bank subjected to a run from becoming insolvent. For these reasons bankers should be men of tried business experience, whose integrity is above suspicion.

The Bank of England.

§ 191. One reason why a bank may count with confidence on retaining control over the major portion of its deposits from day to day, is because the check is such a convenient means of payment that it tends to become the principal medium of exchange in communities in which banking has been developed. If all of the inhabitants of a town had deposits

The Check System.

in the same bank, it will readily be perceived that payments among them might be made exclusively by means of checks and that such payments need involve the actual withdrawal of no money from the bank. The butcher, the grocer, the dry-goods merchant, the lawyer, the physician, etc., might exchange checks at the end of each week or month, and these transfers could be noted on the books of the bank. No money would be required, because under the assumed conditions checks would accomplish all of the exchange work to be done. Only when payments were made to persons who were not depositors in the bank would the bank's deposits be encroached upon. No community has yet developed to a point where checks are used for all of its transactions. In fact, for small payments, the convenience of using checks is more than counterbalanced by the trouble of making them out and the expense connected with transferring small amounts from one account to another. Moreover, as a community grows, competing banks are likely to start up, and this gives rise to checks drawn on different banks and prevents that easy transfer of accounts possible when one bank monopolizes the business. To reduce to a minimum the transfers of money necessitated by the existence of different banks in the same locality, the banks themselves have devised what is known as the "clearing house." Where no clearing house exists, each bank which receives checks drawn on other banks is under the necessity of sending such checks by special messenger to the banks against which they are drawn and demanding payment for them. A clearing house is an institution where such messengers from different banks may come together daily and exchange checks, receiving in payment only the balance due to each bank from all of the others belonging to the clearing house. By this means checks aggregating millions of dollars may be exchanged through the transfer of only 5 or 6 per cent of the amount in money. Even this transfer involves no actual reduction in the amount of money on deposit, since some banks gain what others lose. Thus, with a well-organized clearing house, the affiliated banks in a city in which checks are the preferred means of payment may count with certainty on retaining control over the greater part of their deposits,

so long as they continue to command the confidence of their depositors.

Checks and Drafts.

In the United States the use of checks for paying debts in distant cities is becoming almost as general as for paying debts at home. To facilitate this process each bank has its correspondent in each of the large cities of the country, to which it sends checks drawn on banks in those cities which it has received on deposit or cashed for its customers. These checks are sent to the clearing house like any others by the bank receiving them, and, if good, are credited to the account of the bank making the remittance. The process is made still simpler by the use of drafts drawn by the customer's bank against its correspondent in the city to which remittance is made and given in exchange for checks against the customer's deposit. The obvious advantage of drafts for distant payments is that they do not need to be returned to the place where they originate before they are paid and canceled.

Money and Credit.

The use of checks, drafts and post-office, express and telegraph money orders as media of exchange confines the use of money in progressive communities within very narrow limits. Well-to-do people in cities in the United States already use money only for small-change transactions and for traveling expenses. As the country becomes more densely inhabited and credit institutions are perfected, it hardly admits of question that this custom will become more general and that credit will serve as the medium for an ever larger proportion of exchange transactions. This does not mean that the monetary unit will lose its importance as the standard of value, since all credit instruments are expressed in terms of money. In fact, since credit is based on confidence, the wider the extension of credit, the more vitally important will the soundness and stability of the monetary system become.

Importance of Deposits to Banks.

§ 192. Lending, which was the first, is still, from the point of view of the banker, the most important function of a bank. He is willing to accept deposits and to maintain the clerical force necessary to the efficient operation of the check system, because in this way he adds to his loanable resources. It is through lending these resources at interest that he derives the greater part of his profit. Lending deposits is so remunerative

that banks, especially in cities, are active competitors for depositors. The inducements they offer range from ready accommodation with loans, which appeals especially to active enterprisers, to the payment of a small rate of interest even on call deposits. Some city banks even go so far as to send their own messengers to collect deposits and to cash checks for their customers, so that they may be spared the trouble of visiting the bank. One reason for this active competition is the belief that deposits themselves attract and hold deposits. Confidence is contagious, and when a business man observes that others are intrusting millions of dollars to a particular bank he is the more ready to intrust to it his own surplus funds.

Forms of Bank Loans.

A bank's loans may assume a variety of forms depending upon the kind of security accepted and the conditions as to interest. The simplest sort of a loan is on the personal note of the borrower, secured only by his individual name. Such notes are known as " single-name paper " and are entirely acceptable to bankers when the credit of the giver of the note is above question. A more common kind of loan is on the personal note of the borrower indorsed by some friend or business associate, who, by writing his name on the note, makes himself also liable for the payment of the obligation. " Two-name paper " is, for obvious reasons, more acceptable than single-name notes. Indorsements on notes may be multiplied indefinitely, and each new name may add something to the value of the security.

Collateral Loans.

Even more acceptable to bankers than personal notes are notes secured by a pledge of stocks or bonds, called in this connection " collateral." If such notes are not paid when they fall due the banker is at liberty to sell the securities pledged and reimburse himself for principal and interest from the proceeds. To lend intelligently on collateral security the banker must be well informed as to the values of stocks and bonds, and it is for this reason that he is compelled to follow closely the variations of the stock market. In addition to lending on paper created for the purpose of the loan, banks lend by discounting notes and bills of exchange created in connection with ordinary mercantile transactions. A bill of exchange is an order drawn by one person directing another to

pay a certain sum of money on a certain date to a third person named in the bill. Such bills, or drafts (a name also applied to them), are the constant recourse of merchants who sell on credit. When drawn by a merchant who enjoys the confidence of his bank they are readily discounted by it, that is, purchased at their face value less interest on the principal at the current rate to the time when they fall due. In such a transaction a bank virtually lends its customer the face value of the note less the discount, which is in this case the interest, relying upon him to reimburse it if the person against whom the bill is drawn fails to pay. To avoid misunderstanding, banks which discount bills of exchange usually lose no time in having them brought to the attention of the persons against whom they are drawn for their "acceptance." An accepted bill resembles an indorsed note in that two persons are legally responsible for its payment.

Call and Time Loans.

Besides differing in their form, bank loans differ as to the conditions of payment. In this connection "call" or demand loans, short-time loans and long-time loans must be distinguished. Call loans are payable at any time at the will of either lender or borrower. They are based usually on collateral security, and the borrower who fails to respond promptly to a bank's request for payment runs the risk of being "sold out," that is, of having the security sold to reimburse the bank. As such forced sales are not likely to be advantageous, borrowers on call have every inducement to meet their obligations promptly. Short-time loans are loans which "mature," or fall due, within thirty, sixty or ninety days. Next to call loans, these are preferred by a commercial bank, which likes to have its resources as completely under control at any given time as possible. Long-time loans are loans that run for six months or more and are made more frequently by savings banks, trust companies and private bankers whose obligations to depositors do not usually call for repayment on demand. The prudent banker makes the combination of these various kinds of loans that will secure for his bank the largest average rate of return without so tying up its funds that they cannot be quickly converted into cash to meet an emergency.

Banks Lend Their Credit.

§193. From what has been said thus far, it might be inferred that a bank's credit figures only on the deposit side of its business. It is credit that attracts depositors, and the bank's own capital and the deposits intrusted to it appear to the uninitiated to be the resources which limit its lending capacity. As a matter of fact, modern banks take advantage of the business community's preference for checks as a means of payment to lend deposit credits as well as money. The present-day borrower from a city bank desires, in nine cases out of ten, not money, but a deposit credit on the books of the bank against which he may draw checks at his convenience. Even if he wishes to pay at once to another the whole amount borrowed, he will usually prefer to draw a check for it rather than to pay it in money. From this it follows that the deposit liabilities of a modern city bank represent quite as largely sums loaned by it to business men as sums intrusted to it by such men. A bank lends its credit quite as freely as it utilizes that credit in inducing others to lend to it.

By Means of Deposit Accounts.

The same considerations which cause *bona fide* deposits to be left under the control of the bank, so long as it retains the confidence of its customers, causes loaned deposits to be left with it also. The man who borrows from a bank wants ordinarily purchasing power to use in some business transaction. This purchasing power may pass to some one else, but under present conditions the new owner is almost certain to intrust it, at least temporarily, to a bank for safe-keeping. Presently his business dealings may cause him to transfer it, or part of it, to a third person, but again the chances are all in favor of its being left on deposit with a bank rather than being withdrawn as money. Before the purchasing power loaned by the bank has left its control, or the control of affiliated banks, it is more than likely, in the ordinary course of business, that the loan will mature and equivalent purchasing power will be returned to the bank. In this fashion a bank is able to receive interest for assuming demand liabilities which it may not, as a matter of fact, ever be called upon to discharge. It must always be ready to discharge them on pain of bankruptcy, but it may count with confidence on being called upon to discharge only a portion of them from day to

day. This ability of a bank to make a profit by lending that intangible thing called credit is what makes successful banking so profitable and at the same time exposes bankers to such serious temptations. Banking experience in a given locality may suggest that a cash reserve of at least 30 per cent of the deposit liabilities ought to be kept on hand in order to satisfy at any time a bank's depositors. If this amount is held, a loan business, in the form of deposit liabilities, of $1,000,000 may be maintained by means of a reserve of $300,000. The same $300,000 would maintain a loan business of $1,200,000 if 25 per cent were an adequate reserve. The interest on the additional $200,000 is the temptation which is constantly presented to the banker to depart from the lessons of banking experience and maintain a somewhat smaller reserve than is entirely safe. A reserve of 25 per cent, 20 per cent or even 10 per cent, might be adequate under ordinary business conditions. But the reserve must be sufficient to meet not only ordinary demands, but any demands that are likely to arise. It is because bankers are apt in times of business prosperity to forget the lessons of the past that the banking business has appeared a fit object for state supervision and regulation.

Or Bank Notes.

Besides lending their credit in the form of deposit liabilities, banks which enjoy the privilege of issuing bank notes, that is, the bank's promises to pay on demand without interest the sums named on the face of the notes, may lend their credit in this form. When the credit of a bank is securely established, its promises to pay may be considered "as good as gold." Under such circumstances borrowers from the bank will be as willing to accept bank notes as legal money in case they wish some other means of payment than their own checks. In cities, where checks can be presented to the bank against which they are drawn within a few hours and their value established, most business men prefer them to bank notes. In country districts, however, checks are not acceptable because of the risk involved in trusting the drawer of a check until it can be presented at the distant bank against which it is drawn. If confidence is felt in the bank, no such objection will be raised to bank notes, since they carry

on their face the liability of the bank. It follows that country banks enjoying the privilege may loan their credit through the issue of bank notes, when otherwise loans would have to be made in cash and credit could enter into their business only as a means of attracting depositors.

Interest on Bank Loans Paid for Control over Capital.

§ 194. In a previous chapter interest was described as the share of wealth assigned to capitalists for the use of their capital, or as the earnings of capital. Interest on bank loans does not at first thought appear to fall under this definition. Are the money and credit which banks lend capital? If not, what service do these render to induce borrowers to pay interest for their use? Satisfactory answers must be given to these questions to justify our definition of interest.

Those who borrow from banks wish, usually, purchasing power to enable them to obtain—or, at times, to retain—control over a share of the community's capital. What they really borrow is not the money or the deposit credit which the bank transfers to them, but the concrete forms of capital, economic goods of various kinds, or stocks and bonds which represent part ownership in aggregates of economic goods, which they purchase with this money or deposit credit. The purchasing power which the bank supplies is simply the convenient medium by means of which control over capital is secured, and interest is paid for its use, ordinarily, simply because the capital which it represents earns interest. It is a derived form of interest accounted for by the interchangeability of purchasing power and capital goods.

Gold Coin Is Capital.

For a community which uses as its medium of exchange only self-regulating standard money, for example, gold coin, the answers to the questions propounded above may be given without hesitation. Such gold coin is itself capital, that is, the product of past industry used as an aid (as the "tool of exchange") to further production. Only so much wealth will be thrown into this form as can earn the same rate of return that is obtained by other kinds of capital goods, and this return will be secured because, as the universal medium of exchange, money represents all other goods. It is the transition form in which the gross returns of industry are received by the community's enterprisers and is quickly con-

verted by them and by those to whom they make payments into concrete capital and consumable goods. It thus confers upon its possessor command over whatever combination of goods he may require. The business man's willingness to pay interest for its use proportionate to the time of such use follows necessarily from the command over interest-earning capital goods which it bestows.

Credit Is Not Capital but It Does Work of Standard Money.

But no community uses standard money only as its medium of exchange. The credit of the government is called in to give currency to token and credit money. Where banking is developed, bank credit also serves on a vast scale as a medium of exchange. Can this credit which so largely takes the place of standard money in modern business communities be properly included under the definition of capital? If not, what service does it render which entitles those who furnish it to interest for its use? It must be clearly asserted at the outset that credit is not capital. It may enable the person who enjoys it to secure capital. It may even, to the extent that it serves equally well as the medium of exchange, take the place of capital in the form of standard money. But it is not itself capital. Nevertheless, interest is paid for its use for exactly the same reasons that it is paid for the use of standard money. What the business man wants when he borrows from a bank is purchasing power. If the bank can supply this in the form of a deposit credit, against which he may confidently check at will, or in the form of bank notes "as good as gold," he is as well, even better, pleased than if it supplied it in the form of gold itself. What he really wishes is the goods to be bought with the purchasing power loaned him. It is for these that he is willing to pay interest. It is even these that are really loaned to him, since the bank transfers to him a part of its own control over the collective wealth of the community. The purchasing power which figures in the transaction soon passes on to some one else and continues to circulate, changing hands perhaps hundreds of times before the loan falls due and equivalent purchasing power must be returned to the bank by the borrower. A demand for bank loans is thus at bottom not a demand for money or for credit, but a demand for a part

of the community's capital. Money or other purchasing power is transiently needed to put the borrower in control of the capital he wishes, but its task is quickly done, while the capital remains in the borrower's possession. His demand for it is due, not to his position as a borrower, but to his position as a prospective buyer, and the aggregate demand for money is no greater in a community in which all purchases are made with borrowed money than it is in a community where the same volume of purchases is made with money owned by the purchasers themselves.

Limitations on Use of Bank Credit.

§ 195. Conceding the accuracy of the above analysis, the reader may be inclined to ask why bank credit, the cheaper medium of exchange, does not, in obedience to Gresham's Law, entirely supersede standard money. This is because there are very definite limits to the use that may be made of it. In the first place, it must never be forgotten that bank credit is efficient as a medium of exchange only so long as it is convertible at will into legal money. Bankers must be constantly on their guard against unduly multiplying their deposit or note liabilities, and the public must be constantly on its guard against trusting bankers who are not safe, conservative men. These two considerations tend to confine the banking business to men who may be trusted not to be carried away by the possibilities of gain afforded by their position, and to cause such men to regulate their use of credit by reference to the reserve of legal money which they are able to maintain as a guarantee that all obligations will be instantly discharged. A second point to remember is that the nature of bank credit limits its use to borrowers whose need of purchasing power is only temporary. A commercial bank cannot lend on long-time paper to any considerable extent without losing that quick control over its assets that is indispensable to its solvency, since nearly all of its liabilities must be discharged on demand. Its loans must be on call or short-time paper, and this confines its services to business men whose transactions are of such a nature that they can count confidently on ability to repay, after a brief interval, what they have borrowed.

Within the limits determined by the nature of their busi-

ness, commercial banks compete actively to lend their credit at interest. Where banking is well organized this insures to those business men who can avail themselves of call and short-time loans accommodation at rates of interest as low as, and at times even lower than, that paid by the safest long-time investments. The lowest rate normally is that paid for call loans. Only men who are engaged in operations on the stock exchange, which they believe they can conclude without loss on short notice, venture, usually, to make themselves liable for loans of this character. In contrast with the limited demand for such accommodation on the side of borrowers, there is an almost indefinitely large supply of funds to be loaned at call on the side of lenders. Other things being equal, call loans are those dearest to the banker's heart. They enable him virtually to "have his cake and eat it too," to retain control over his assets at the same time that these are earning interest. These two circumstances explain why the call rate is sometimes as low as one-half of one per cent and usually lower than the rate on the safest bond investments. The call rate is also the rate subject to the most violent fluctuations. Those who borrow on call do so nearly always to buy stocks or bonds. If their calculations miscarry, they may be asked to repay at the very time when it is most awkward to do so. Rather than sell, on a depressed market, the securities they have purchased, borrowers are often willing to pay extravagant rates of interest for a few days in the hope that the prices of these securities will rally. It is thus not uncommon for the call rate to rise to 50, 75 or even 100 per cent for a few hours or days when a decline in stocks is in progress or banks are calling in their loans to be ready for emergencies.

Short-time Loans.

Loans on short time, which are less attractive to lenders, are, on the whole, more attractive to borrowers, but, as before, those who wish the use of purchasing power for thirty, sixty or ninety days only, are a limited class. The normal relation between supply and demand fixes the rate of interest on short-time loans comfortably above the call rate and even somewhat above the rate on such permanent investments as safe railroad bonds or real estate mortgages. The rate on

long-time loans is little affected by the use of bank credit as a medium of exchange in place of standard money, for the reason already explained that commercial banks cannot afford to tie up their loanable funds under long-time contracts.

Competition Tends to Adjust the Bank Rate of Interest to the General Rate.

Speaking generally, it is the tendency in countries in which the banking business is open to all who can command the requisite capital, as it is in the United States, for the supply of funds loanable at call or on short time to be multiplied until the rate of interest on such loans bears a certain normal relation to the rates of interest in other fields of investment. Ability to loan their credit as well as standard money enables commercial banks to satisfy the requirements of business men at lower rates of interest than could possibly be offered if every loan negotiated meant so much cash withdrawn from the control of the bank. Competition prevents the banks from retaining for themselves the profit which results from the use of their credit. They share it with their customers, and through these customers the whole business community is benefited. At last analysis, rates of interest on bank loans are determined, like other rates of interest, by the earning power of capital. Credit serves merely to supplement standard money as a medium of exchange and introduces no new principle to necessitate a qualification of the explanation of interest already given.

Should Banking Be Regulated?

§ 196. There is still great difference of opinion among economists as to whether banking ought to be regulated by law or left entirely free. The reasons in favor of unregulated banking are similar to those in favor of freedom in other fields of business enterprise. The credit relations into which banks enter with their depositors and borrowers are purely voluntary, and the free play of economic motives tends to concentrate the business into the hands of upright and conservative men. Moreover, the normal expansion and contraction of bank credit are of such vital importance to the whole business community that their action ought to be controlled by those who have been chosen by a process of natural selection to manage the banking business, and not hampered by administrative rules of thumb. Bank credit, in the form of deposit accounts and bank notes, is a highly flexible ele-

ment in the medium of exchange. By means of a check a million dollars may be paid out as readily as one dollar. Where all business men have bank accounts the medium is made absolutely elastic by means of this convenient credit device. Bank notes are not quite so elastic as checks, and yet when additional currency is required to pay wages and interest at the end of the month, the half-year or the year, to move the crops at harvest time, or to provide for some other passing need, the nature and extent of which are perfectly well understood, banks, which are not restricted, may meet the emergency to the advantage of the whole business community by merely adding to their note liabilities.

Argument for Free Banking.

The importance of an elastic element in the medium of exchange can hardly be exaggerated. In every community the need for exchange media is variable. At certain times few exchanges take place, and a small amount of money and its substitutes will maintain prices at their normal level. At other seasons buying and selling are active, media of exchange are in great demand and unless, as a whole, they expand readily to meet the situation, the disease known as "money stringency" will attack the community with its accompanying symptoms, a rising rate of interest and falling prices. A varying demand for media of exchange is especially characteristic of agricultural communities. During the greater part of the year the buying and selling which take place among farmers are of very small proportions. At harvest time, however, the entire product of the year's industry changes hands, often within a period of two or three weeks. Unless the medium of exchange expands readily at such seasons, a money stringency is sure to occur and prices will fall at the very time when it is most important to the whole community that they should be sustained. Advocates of unregulated banking maintain that elasticity in the check and note currency can best be secured by permitting bankers to exercise perfect freedom in the conduct of their business.

Counter-argument.

Notwithstanding the force of the arguments in favor of unregulated banking, nearly all countries subject their banking institutions to some degree of control, and for reasons

which seem to the writer conclusive. The extension of banking depends primarily upon the presence in the community of mutual confidence. Depositors and note-holders must have confidence in the bank officials. Banks, in turn, must have confidence in those to whom they lend. This mutual confidence is of slow growth, and since its fruits are so important everything should be done to preserve it after it has developed to a point which makes banking practicable. If each bank were judged by itself by the popular mind the arguments in favor of free banking would be convincing; but the popular mind does not judge each bank by itself. It judges of the institution of banking as a whole. One bank failure in a community in which banks are just developing may serve to bring the whole business into disrepute. For this reason it is to the interest of bankers themselves to have their business subjected to regulations which will hold them all up to a high standard of honesty and conservatism. Admitting the need of government regulation as a condition to the highest development of the banking business, it remains a difficult question to decide in any given case how far regulation should go. This concrete aspect of the problem can best be considered in connection with a description of the national banking system of the United States.

History of the National Banking System.

§ 197. The national banking system of the United States was an outgrowth of the Civil War. To meet the expenses of that struggle the Federal Government was forced to issue bonds on an unprecedented scale. The national banks were created to furnish a market for these bonds and at the same time to take the place of the state banks, some of which were not in a sound condition. The original act, passed in 1863, was revised in important respects by the National Bank Act of 1864, which, as amended by subsequent statutes, is still the basis of the system.

The Present Law.

General supervision over the national banks is vested in the Comptroller of the Currency, who represents the Secretary of the Treasury in all his relations with these institutions. The law permits the Comptroller to issue certificates of incorporation, valid for twenty years, to any five reputable citizens who wish to establish a national bank and can com-

mand the capital prescribed by law, that is, not less than $25,000 for small towns of 3000 or less inhabitants and not less than $200,000 for cities of 50,000 and over. In accordance with the Federal Reserve Act, approved December 23, 1913, every national bank must be a member of the Federal reserve bank of the district in which it is located and must subscribe an amount equal to six per cent of its capital and surplus to the capital of such bank. This obligation supersedes the earlier requirement that national banks must invest a part of their capital in U. S. bonds, which, when deposited with the Comptroller of the Currency, entitled them to the privilege of issuing national bank notes of equal face value. As the obligation to redeem national bank notes is shared by the U. S. government, banks issuing such notes are also required to maintain at Washington a redemption fund equal to five per cent of their outstanding notes. It was the combination of these two requirements as to deposits, entailing the investment of at least $105 of a bank's resources for each $100 in notes which it is permitted to issue, that made the national bank note an inelastic, or even perversely elastic, medium of exchange. In periods of monetary stringency, when banks should be able to relieve the situation by increasing the volume of their outstanding notes, national banks were under a strong inducement to do just the opposite. By sending an additional $95 to Washington for each $100 of their outstanding notes they could recover the bonds deposited and sell them at par or better and thus make a net addition to their own loanable funds, though contracting the circulation of the country at large in the process. Banks rarely went so far in the pursuit of their own interest as this, but it is obvious that they could not afford to act in the contrary way, that is, buy bonds and forward them together with the five per cent redemption fund to Washington for the privilege of issuing a smaller sum in bank notes. National bank notes were therefore precluded by the very regulations controlling their issue from performing the proper functions of a useful bank note currency. The same criticism applies to the new Federal reserve bank notes presently to be described.

National Bank Notes.

In addition to issuing notes—a function practically confined to the national and Federal reserve banks, since the demand obligations of other banking institutions are subject to a tax of ten per cent under an act passed in 1865—the national banks are empowered to engage in the other operations commonly undertaken by commercial banks.

Protection of Depositors.

The regulations protecting depositors in national banks are almost as rigid as those controlling note issues. When such banks fail, their stockholders are liable to assessment, to make up any deficit, up to the full par value of their stock. The banks are required to make at least five reports of their condition in the course of each year on such dates as may be designated, without previous notice, by the Comptroller. They must also submit to periodic examinations, also unannounced, by bank examiners acting under the orders of the Comptroller and empowered to inquire into every detail calculated to throw light on the true condition of the bank examined. Finally, the banks are divided into three classes—central reserve city banks (those of New York, Chicago, and St. Louis, on November 1, 1916), reserve city banks and others. As explained in the next section, banks in each of these classes must maintain reserves prescribed by law to insure the prompt payment of valid checks drawn by their depositors. Whenever a bank's reserve falls below the legal minimum, it is required to discontinue its discount business until the reserve is restored, and if this is not accomplished within thirty days it may be placed in the hands of a receiver.

The currency panic and collapse of bank credit which occurred in October, 1907, led Congress in 1908 to amend the National Bank Act to permit national banks to form "national currency associations" for the issuance, under careful limitations, of "emergency notes" based on other securities than U. S. government bonds.* At the same time it created the National Monetary Commission, with the late Senator Aldrich as chairman, to investigate the whole subject of money and banking in the United States. The recommendations of this Republican commission did not lead immediately

* This act expired by limitation on June 30, 1915.

to legislation owing to that party's loss of control of Congress, but its monumental report in thirty-eight volumes and the discussions which it evoked prepared the way for the Federal Reserve Act passed by a Democratic Congress under President Wilson's determined leadership. This statute marks a stage in the development of the national banking system comparable in importance with the establishment of that system itself fifty years earlier.

Defects in System.

§ 198. The concentrated attention given to the currency problem after the crisis of 1907 served to crystallize opinion as to the defects in the American banking system. They were acknowledged on all sides to be: (1) the inelasticity of national bank notes; (2) the failure of the reserve requirements to co-ordinate banking resources and banking responsibility in periods of stress; (3) the absence of a market for the rediscount of the forms of credit paper normally held by commercial banks.

The reasons for the inelasticity of the national bank notes have already been explained. Absence of any co-ordination of banking resources was the inevitable result of the plan of permitting any number of national banks to be organized and of prohibiting them from having branches. This prevented any one bank or group of banks from attaining sufficient power and influence to protect weaker banks from failure in time of stress. The tendency of such a system was to encourage each bank to fend for itself in an emergency by calling in its loans and hoarding its available resources, a course of conduct which, as American experience demonstrated over and over again, was certain to make the emergency more acute and to create among business men a rooted distrust of all banking institutions. The lack of a market for the rediscount of bills and notes was a more technical but no less serious defect. Safe banking requires that assets be in such a form that they can be readily converted into means of payment with a minimum of delay and loss. The principal item among the assets of a commercial bank is the notes and bills which it has discounted for its customers. If these must be held by the bank until they fall due, a large part of the bank's assets must always be unavailable to meet

sudden demands for payment on the part of depositors. European banks escape this evil by rediscounting notes and bills among themselves, so that a bank which finds itself suddenly in need of means of payment may go to another bank and offer notes or bills for rediscount without arousing any suspicion as to its solvency or incurring serious loss. It was characteristic of the every-one-for-himself methods of American bankers that they had not developed in any systematic way this salutary practice of rediscounting, and its absence made our banking system less adaptable to changing business conditions than that of any other important country. This failure was, of course, also due in part to the fact that we had no bank of banks, like the Bank of England, the Bank of France, or the *Reichsbank* of Germany, which was endowed with special privileges and charged with commensurate responsibilities for the soundness of the whole banking system.

Federal Reserve Act.

The remedy for the above defects proposed by the Aldrich Commission was the creation of a Reserve Association of America with a capital of $300,000,000 subscribed by the national banks of the country, in which their reserves should be concentrated, which should have a monopoly of the privilege of issuing bank notes on the basis of ordinary bank assets, and which should be the sole depository of U. S. government funds. Such an extreme concentration of banking power, even though administered by officers appointed by the government, seemed dangerous to the Democrats. The Federal Reserve Act is an ingenious compromise, which preserves the form of decentralized banking power but at the same time secures the essentials of centralized control over reserves and note issues. The country is divided into twelve Federal reserve districts, each with a Federal reserve city * in which is located a Federal reserve bank. The capital of these banks—and each must have at least $4,000,000 subscribed—is derived from national

* The act prescribed "not less than eight nor more than twelve," and the larger number, unwisely many critics believe, was determined on by an organization committee created for the purpose. The cities finally selected were: Boston, New York, Philadelphia, Richmond, Atlanta, Cleveland, Chicago, St. Louis, Dallas, Kansas City, Minneapolis, and San Francisco. Baltimore and New Orleans felt particularly aggrieved at being passed over in favor of smaller cities.

banks, which *must,* and from state banks and trust companies, which, on complying with certain conditions, *may* enter the system. Of the six per cent of its capital and surplus which each must subscribe, one-half must be paid in and the balance remain subject to call. " Double liability " attaches to stockholders of the Federal reserve banks as to those of national banks.

In determining the rights, responsibilities, and government of the Federal reserve banks, Congress held constantly in view the public interests at stake. The subscribing banks, known as " member banks," contribute all of the capital and meet all of the expenses of the new system, but their annual return is limited to six per cent (cumulative) on their investment. All of the remainder, after a surplus equal to forty per cent of the capital has been built up, goes to the government. Also, as will appear, their control over the reserve banks is restricted in important respects.

Federal Reserve Board: Its Powers and Duties.

The most important contribution of the act is the creation of a Federal Reserve Board, to have general supervision over the whole banking system. This consists of the Secretary of the Treasury and the Comptroller of the Currency, *ex officio,* and five members to be appointed by the President, with the approval of the Senate. The salary of each member of the Board is $12,000 and the term for appointed members ten years.

The powers and duties of this Board are extensive:

(1) It selects three of the nine directors of each Federal reserve bank, and designates one to act as chairman of the board and as " Federal reserve agent " of the district.

(2) It examines Federal reserve banks at will and publishes weekly reports showing the individual and combined condition of these banks.

(3) It may permit or, by an affirmative vote of five of its members, require a Federal reserve bank to rediscount the discounted paper of other reserve banks at rates which it determines. This power enables it in a period of stress to co-ordinate the resources of all of the Federal reserve banks, and administer them as though they constituted in truth a single central bank.

(4) It has the power to "review and determine" the rates of discount charged by Federal reserve banks for the different classes of paper which they rediscount or purchase in the open market. In the exercise of this power it is expected to insist on rates "fixed with a view of accommodating commerce and business" rather than for the maximum profit of the reserve banks.

(5) It may suspend for thirty days and re-suspend for periods of fifteen days the reserve requirements of the Act, to be described later. Incidentally it must impose a gradually rising tax on the permitted deficits in reserves and this must be added to the rates of discount charged by the reserve banks, to act as a brake on reckless borrowing and as an incentive to the speedy restoration of the reserves to their normal condition.

(6) It has complete control over the issue of "Federal reserve notes," a new form of bank note created by the Act. These are issued to the Federal reserve banks on the basis of a one hundred per cent deposit of rediscounted credit paper conforming to requirements designed to insure that it be truly commercial paper and not loans for speculation or long-time investment. The Federal reserve banks receiving such notes must maintain a forty per cent gold reserve for their redemption. Part of this must be entrusted to the United States Treasury, since the notes are made an obligation of the United States, as well as of the issuing bank, and a redemption fund must, therefore, be maintained at Washington for them as for national bank notes. These Federal reserve notes obviously meet the requirements of an elastic currency, and since control over their issue rests entirely with the Federal Reserve Board there should be no danger in future of monetary stringencies. The Federal Reserve Board determines the rate of tax to be paid by the reserve banks for the notes they receive and judicious exercise of this power should ensure their prompt retirement as media of exchange become superabundant. They thus have elasticity as regards power to contract as well as regards power to expand.

(7) It may add to, discontinue, or reclassify cities desig-

nated as " central reserve," " reserve," or " other," and thus alter the reserve requirements applying under the law to the member banks in any locality.

(8) It may suspend or remove any officer of any Federal reserve bank.

(9) It may require the writing off of doubtful or worthless assets upon the books of Federal reserve banks.

(10) It assesses every six months the estimated sum required for all the expenses of the Board, including the Board members' salaries, upon the Federal reserve banks, which must thus support the Board which supervises them, although its functions are so largely governmental.

Other minor powers and duties give the Board control over the new banking system at all essential points. To keep it in close touch with competent opinion in all sections of the country the Act makes provision for a Federal Advisory Council, to consist of twelve representatives, one selected by the directors of each Federal reserve bank. This council is to meet in Washington at least four times a year to confer with the Board and to make oral or written representations and recommendations to it.

To launch the new system successfully it was necessary to provide the Federal reserve banks not only with capital but also with deposit resources commensurate with the position of leadership in their respective banking districts which they were intended to assume. The needed capital was secured by requiring the national banks to subscribe and making entry into the system attractive to state banks and trust companies. To secure deposit resources the novel plan was adopted of *requiring* the member banks to deposit a part of their legal reserves in their respective Federal reserve banks. Provision is made for the gradual transition from the present to the new reserve system, but when it becomes fully operative, November 16, 1917, three years after the Federal reserve banks were formally opened for business, the reserve requirements will be as follows:

Reserve Requirements of Act.

All member banks must maintain reserves of five per cent against their time-deposits, time-deposits being defined as those payable only after thirty or more days' notice.

Member banks in central reserve cities must maintain against their demand deposits reserves of eighteen per cent, of which one-third is to be kept in their own vaults, seven-eighteenths is to be deposited with their Federal reserve bank and the remaining five-eighteenths is to be kept or deposited as they may prefer.

Member banks in reserve cities must maintain reserves against their demand deposits of fifteen per cent, one-third in their own vaults, six-fifteenths in their Federal reserve bank and the remaining four-fifteenths in either as they prefer.

Other member banks need maintain reserves against their demand deposits of only twelve per cent, one-third in their own vaults, five-twelfths in their reserve bank and the remaining three-twelfths in whichever they prefer.

One-half of the reserves entrusted to the reserve banks may be sent in the form of paper eligible for rediscount, properly endorsed and acceptable to the reserve banks.

The Federal reserve banks themselves are required to maintain reserves equal to thirty-five per cent of their deposit liabilities—a provision which properly emphasizes the large responsibility that rests upon them as custodians of the reserves of their member banks.

Although requiring a portion of the legal reserve of a bank to be deposited with another banking institution might seem at first thought contrary to sound banking principles, the peculiar position given to the Federal reserve banks goes far to justify the measure. These banks are subject to strict supervision by a Board of such dignity and authority, that it involves little exaggeration to compare it with the Supreme Court of the United States. By controlling a substantial proportion of the bank reserves of the country and at the same time enjoying the privilege of issuing bank notes on the security of rediscounted paper, the Federal reserve banks, administered in periods of stress as a unit by the Federal Reserve Board, will be in a position to preserve the country from the periods of money stringency that have been so common in the past. This may not do away with financial

crises, but it should diminish their frequency, mitigate their violence, and shorten their duration.

Other Regulations.

In attempting to remedy the third serious defect in our banking system, the lack of a market for the rediscount of the credit paper held by banks, the Federal Reserve Board is confronted by a problem that admits of only gradual solution. The practices of the banks of the country must first be standardized so that they will require from their borrowers the kinds of paper which it will be safe for a reserve bank to rediscount. This is a technical matter, and thus far the principal work of the Board has been educational. Gradually the banks are being taught to require fuller information from would-be borrowers before they accept their promises to pay, and to insist more rigorously that loans shall be paid as they fall due and not renewed automatically until the bank becomes virtually a partner in the business ventures of its customers. The relative advantages of single-name and two-name paper have been fully discussed, and by rediscounting at slightly lower rates paper bearing two names the reserve banks are bringing about a wider use of this superior type of credit instrument.

Other services of no mean importance which the new system is rendering are those of equalizing interest rates and making more efficient and therefore more economical the machinery for clearing checks. The goal contemplated in the Act, and gradually being approached, is to have each Federal reserve bank act as the clearing house for its district, and the Federal Reserve Board itself act as a clearing house for all of the twelve banks together and thus for the entire country. It may not be possible or desirable to carry this so far that a valid check drawn in any part of the country will be accepted at par in every other part, but it clearly is desirable to reduce the expense and therefore the charge for making collections to the lowest attainable minimum. Substantial progress has already been made in this direction through regulations issued from time to time by the Federal Reserve Board.

Bond Purchase Provision.

A last serious difficulty with which the new Act was compelled to deal was the presence in our monetary system of

over $800,000,000 of bond-secured national bank notes. National banks had been induced to buy two per cent U. S. bonds at par, or even above par, because of the privilege of issuing bank notes on the basis of them which the law conferred. To withdraw this privilege would have been clearly an act of bad faith on the part of the government. Instead the law requires the Federal reserve banks to buy at par two per cent bonds offered by member banks at the rate of not more than $25,000,000 a year, and gives them the privilege of using these as a basis for "Federal reserve bank notes" subject to the same regulations as national bank notes, or exchanging them at par for three per cent thirty-year U. S. bonds or, up to fifty per cent of the total, three per cent one-year U. S. notes, renewable year by year for thirty years at the option of the Secretary of the Treasury. By these means national bank notes will gradually be withdrawn and cancelled and their place taken to a limited extent by Federal reserve bank notes.

At the time of writing (November, 1916) the Federal reserve system has been in operation for less than two years. Like the national banking system itself, it has come into being when all credit relations were rendered abnormal by a great war. This makes any attempt to appraise its strong and weak features premature, but there are two points at which it is already clear that the American banking system can be still further improved.

Amendments Advocated.

When the national banking system was organized, important powers were vested in the Comptroller of the Currency. These powers have been exercised on the whole with foresight and wisdom, but now that the Federal Reserve Board has been created and given even wider control over the banking business of the country, the office of Comptroller of the Currency has become superfluous. The powers heretofore vested in the Comptroller should be transferred to the Board and the office of Comptroller should be abolished. This will clearly be a step in the direction of economy and efficiency.

The second desirable change relates to the new Federal reserve bank notes. These have been authorized as a con-

venient means of displacing the national bank notes, but they have the same inherent defects as these, since they also are secured by bonds deposited with the government. The authors of the Federal Reserve Act hesitated to adopt a plan that would lead to the outright retirement of the national bank notes because they feared that this might cause a currency stringency. As a matter of fact, ever since the new act went into operation, the country has been threatened not with stringency but with inflation. This has been due partly to the great influx of gold from Europe and partly to the more liberal reserve requirements which have in effect largely increased the loanable resources of the national banks. The time could hardly be more opportune for the retirement at a rapid rate of the old national bank notes, and there is no valid reason for neutralizing the advantages to be gained through such retirement by permitting the issue of a new bank note currency having the same undesirable characteristics as that in process of extinction. It would be an act of wise statesmanship to so modify the requirements as to the purchase of the outstanding two per cent bonds, that they would be rapidly taken up by the Federal reserve banks or by the U. S. government itself in exchange for new bonds bearing a higher rate of interest and carrying with them no bank note privilege whatever. When this operation was completed the United States would have only one form of bank note currency, the new Federal reserve notes. These would render all the services of which bank notes are capable and any profit that might be derived from their issue, over and above the six per cent return to which the banks which furnish the capital of the Federal reserve banks are entitled, would go into the Federal treasury for the benefit of the whole people of the United States. We should then have for the first time a simple and scientific bank note system, and more perfect means for adjusting the supply of currency to the legitimate business needs of the country than we can hope to obtain so long as we continue in circulation the ten different kinds of money that are now outstanding.

§ 199. The preponderant rôle which credit has come to play in modern business is indicated by the giant propor-

Statistics of Banking Institutions.

tions to which banking has attained. On September 2, 1915, there were in the United States 7613 national banks with an aggregate capital (including surplus) of $1,791,000,000, aggregate individual deposits of $6,609,000,000, and aggregate loans of $6,757,000,000. Thirty-three of these banks were located in New York City. An appreciation of their relative importance is afforded by the fact that these banks alone had on that date a capital and surplus of $237,000,000, individual deposits of $994,000,000, and loans of $1,313,000,000. These figures do not, of course, include the resources of the twelve Federal reserve banks, which by September 24, 1915, had come to have a paid-in capital of $55,000,000 and deposits of $355,000,000. While national banks now perform a major portion of the banking business of the country, state banks still hold an important place. On June 30, 1915, 14,598 state banks were reported to the Comptroller of the Currency. Their aggregate capital and surplus were $725,000,000, their individual deposits $3,278,000,000, and their loans $2,883,000,000. On the same date were reported 1036 private banks with capital of $29,000,000, deposits of $134,000,000, and loans of $114,000,000. More important than state and private banks have become, in recent years, so-called loan and trust companies. There were reported to the Comptroller on the given date 1664 of these banking institutions, with capital and surplus of $927,000,000, individual deposits of $4,205,000,000, and loans of $3,045,000,000. Finally, account must be taken of the important rôle which savings banks play in bringing together the small savings of their millions of depositors and making them available for long-time loans on real estate mortgages and other safe security. On the same date there were in the country 2159 savings banks with deposits of $4,998,000,000 divided among 11,285,755 depositors. To this should be added $66,000,000 at the same time on deposit in the postal savings system. The totals which result from combining these items for all the different banking institutions of the country assume truly stupendous proportions. The 24,911 national, state, and private banks, and loan and trust companies had a combined capital and surplus of $3,472,000,000, deposits of $14,226,000,000, and

loans of $12,799,000,000. Adding to their deposits those in the savings banks, we have a grand total of $19,224,000,000. Perhaps the most significant aspect of these figures is that the aggregate individual deposits if divided by the population of the continental United States on June 30, 1915 (officially estimated at 100,399,318), gives as the average per capita deposit on that date the substantial sum of $191. Of course some part of these deposits arose from loans made by the banks to the individuals to whom they were credited, but that the average per capita deposit, whatever the origin of the deposits, amounted to about one-ninth of the estimated average per capita wealth of the country is striking evidence of the part banks have come to play in the industrial life of the day.

Conclusion.

§ 200. It would be difficult to exaggerate the importance of the services which credit, and especially bank credit in its various forms, renders the business community. Through the agency of banks a cheap and elastic check and bank-note currency is substituted for coined money, which is both costly and for many purposes inconvenient. Further, banks serve to gather together the small savings of thousands of persons—savings for which they have no immediate use—and to put these at the disposal of active business men on terms which enable them to produce at a minimum of cost. Finally, banks are the ready agents of the government and of great corporations when large sums of purchasing power are required, and carry through easily financial operations which without their aid would be fraught with most serious consequences to the whole business world. Notwithstanding these services, there is in the United States a widespread distrust of banks and bankers, which has been reflected more than once in Federal and state legislation. The impression is widely prevalent that while banks themselves reap large gains by lending their credit at interest, no corresponding benefits extend to those who borrow from banks. In the judgment of the author this belief is without substantial foundation. For banking as for other branches of business competition is a force which compels a sharing of profits with the whole community. The more fully the banker is

permitted to utilize his credit either in the form of deposit accounts or bank notes, the lower will be the rate of interest which he can afford to take for his services, and competition tends to force him to accept this lower rate. At the same time it cannot be denied that the banking business offers unusual opportunities not only for profit but also for the exploitation of needy borrowers rendered desperate by their inability to meet their obligations when they fall due. For both these reasons the changes effected by the Federal Reserve Act deserve a place among the most important economic reforms accomplished in recent years. Under the new system a Federal reserve bank, managed less for its own profit than to promote the broader business interests of the country, is located in each of the twelve districts into which the country is divided. The rates of interest which it charges its member banks are under the control of an able and experienced governmental board, and these must influence strongly the rates which these banks in turn charge their customers. Finally, to the Federal reserve banks is given a monopoly of the privilege of issuing bank notes on the security, not of bonds, but of their ordinary commercial assets, while the profits they may derive from this and other business, beyond a reasonable return on their capital, must be turned over to the public treasury. Under this system American business men will enjoy the protection of an economical and efficient banking system, while American bankers will be able to look forward with confidence to a future in which the greater security surrounding their business will much more than make up for any decline in their rate of profits on individual transactions.

REFERENCES FOR COLLATERAL READING

In addition to the references given in the preceding chapter the following are suggested: **Dunbar*, The Theory and History of Banking; **Muhleman*, Monetary and Banking Systems; *Conant*, History of Modern Banks of Issue; *Knox*, History of Banking; **Taussig*, Principles of Economics, Chaps. XXIV.-XXVIII.; Reports of the Aldrich Currency Commission, 1910-1912; **Hepburn*, A History of Currency in the United States; **Agger*, The Federal Reserve System, Political Science Quarterly, June, 1914; **Sprague*, The Federal Reserve System in Operation, Quarterly Journal of Economics, August, 1916; *Federal Reserve Bulletins issued monthly by the Federal Reserve Board, Washington, D. C.

CHAPTER XXI

FOREIGN EXCHANGE AND SOME UNSETTLED MONETARY PROBLEMS

The Nature of Foreign Exchange.

§ 201. In foreign as well as domestic trade credit now serves as the principal medium of exchange. Those who purchase goods from abroad pay for them by buying drafts, or post-office, express or cable money orders and sending these to the foreign seller, or by permitting the foreign seller to draw on them by means of drafts, or bills of exchange, for the sums due. Orders for the payment of money in a foreign country are called "foreign exchange," and the buying and selling of such exchange is, as already suggested, a usual part of the business of a modern city bank. A description of the factors that enter into this business as it is conducted between the United States and the United Kingdom will serve to introduce a discussion of some of its more general aspects.

International Credits and Debits.

Anglo-American trade now includes as varied transactions as the domestic trade between different sections of either country. In addition to commodities, stocks, bonds and other securities are constantly dealt in between the two countries; profits, rents, interest and even wages are transmitted; freight charges are paid; travelers abroad receive remittances from home; and bankers' loans are exchanged. If these different transactions be considered from the point of view of one of the countries, say, of the United States, they may be arranged in two groups: those necessitating payments to the country and those necessitating payments by the country. The first may be thought of as credits acquired by the United States. These arise from the sales of commodities or securities, from payments in the way of profits, rents, interest or wages due to Americans from the United Kingdom, from the expenditures of Englishmen in the United States, and finally from loans by English to American bankers. The second may

be described as debits, and arise from the opposite transactions, *e. g.*, purchases of commodities or securities, loans to English bankers, etc.

Sterling Exchange.

For reasons which are mainly historical the custom has arisen of making London the clearing house for the credit instruments used in connection with Anglo-American trade. Americans having payments to make in England usually buy drafts payable in London and transmit them to their creditors. Americans who are creditors of Englishmen, on the other hand, usually draw drafts or bills of exchange, payable in London, upon their debtors, instead of waiting for them to remit. They sell these to bankers, who send them to their correspondents in London for collection. Orders for money payable in London are known as "sterling exchange" because they call for pounds sterling. If the orders for payments to English creditors are exactly offset by the orders for payments by English debtors, the credit instruments which arise in connection with the various transactions described will just balance one another when they come together in London and no other medium of exchange than credit will be required. This outcome, where transactions are so vast, is, of course, highly improbable. It more frequently happens that there is a balance either on the credit or on the debit side to be liquidated by means of further transactions.

The Gold Points.

§ 202. The rate at which sterling exchange is quoted in the United States never departs very far from the sum in American dollars into which the 113 grains of gold in the standard English coin, the sovereign (equivalent to one pound sterling), will be coined by our mints. This is called the "par of exchange" and is $4.866+. The rate of sterling exchange fluctuates within narrow limits about this par for the simple reason that the alternative is always open to American bankers and brokers who have debts to pay or to collect in the United Kingdom of exporting or importing standard gold coin. The limits within which sterling exchange normally fluctuates are called the "gold points" and are now approximately, for demand exchange, $4.84\frac{1}{2}$ and $4.88\frac{1}{2}$. That is to say when the rate for sterling exchange falls as low as $4.84\frac{1}{2}$ the margin between this and par rather more than suffices to

cover freight, insurance, loss of interest, etc., on the sovereigns for which the exchange calls and which may be imported and exchanged @ $4.866+ for American money at our mints. Under these circumstances there is always an active competition among bullion brokers to buy sterling exchange as it approaches $4.84½ and at this price their demand for it is practically unlimited. The more they can buy the larger the profit they can make by importing the gold for which it calls and converting it into American money. On the other hand, as the rate of sterling exchange rises toward $4.88½ it begins to be profitable to export American gold to be converted into English money in order to sell exchange against it at the premium. The margin between the high rate and par now covers the freight, insurance, loss of interest, etc., on American gold sent to London and as before the competition of bullion brokers prevents the rate from rising above the upper gold point. In determining the gold points interest on bullion in transit is, of course, an important item. The higher the rate of interest the wider the gap between the gold points; a lower rate narrows it.

The Rate of Sterling Exchange.

§ 203. The actual rate of sterling exchange is determined from day to day by the relation between the demand for it and its supply. All of the transactions which have been enumerated as belonging on the debit side, from the point of view of the United States, give rise to a demand for sterling. The supply comes from the transactions enumerated on the credit side. International bankers and others who buy and sell foreign exchange tend by their competition to adjust the rate so that the demand and supply will just balance. Excess on the side of supply causes the rate to fall, the limit being the lower gold point, at which credit is abandoned as a medium of exchange and gold is used instead. Excess on the side of demand causes the rate to rise, the limit here being the upper gold point, at which credit again is discarded and gold used. Gold thus serves as the medium in which international balances are settled when debits and credits fail to offset each other.

Among the transactions which give rise to debits and credits the most sensitive are those we have characterized as bankers'

Controlling Rate of Exchange Through the Rate of Interest.

loans. Anglo-American banking houses, of which there are now many, divide their banking capital between London and New York. Self-interest leads them to keep the major part of this capital and of their entire loanable funds at that center in which the higher rate of interest prevails. Suppose that for a time this center happens to be New York—as it usually is. To take advantage of the high rate, bankers will wish to transfer their funds from London to the more profitable loan market. They will do this most cheaply by selling drafts on London so long as they can get a price for these drafts above the lower gold point. A rising rate of interest in New York thus serves to attract loanable funds from abroad, and these add to the supply of sterling bills. This cause may serve to add so largely to the supply that the rate of exchange will be forced down to the lower gold point and a part of the transfer will be effected by means of an importation of gold. The Bank of England and the state banks of other countries, which are in a position to control the bank rates of interest take advantage of this relation between interest rates and rates of foreign exchange to draw gold into the country when they so desire. By advancing their rates of discount they cause the rates of foreign exchange to move to the gold import point.

Influence of Prices.

More important in their aggregate effect than changes in rates of interest are changes in the prices of the commodities and securities that enter into foreign trade. Falling prices in the United States attract foreign buyers and their purchases add to the supply of sterling bills. Rising prices not only discourage foreign purchases, but stimulate purchases from abroad on the part of Americans, thus adding to the demand for bills. Through these two influences—change in interest rates and changes in prices—the rate for sterling exchange is kept oscillating backward and forward, but always within the limits fixed by the gold points—always, that is, unless the credit system of one of the countries concerned is seriously deranged.*

* As have been, for example, the credit systems of European countries since the Great War. Another reason for the prevailing low rate of sterling exchange (1916) is, of course, the abnormally high cost of shipping bullion across the Atlantic, including insurance at war rates.

Three-cornered Exchanges.

§ 204. In the preceding discussion attention has been confined to foreign exchanges between the United States and the United Kingdom. In actual practice these exchanges are intimately connected with all the other foreign exchange transactions to which the countries are parties. Credit is so much more economical than bullion as a medium of exchange that gold is only shipped after all of the resources of credit have been exhausted. In the case of the United States some branches of its trade, as, for example, its trade with Brazil, call habitually for payments that are not offset by credits acquired in that country by Americans. Nevertheless, bullion is rarely shipped from the United States to Brazil, because it is quite as satisfactory to Brazilian bankers to receive sterling bills which add to their credits in London, and on the basis of which they can sell drafts to Brazilian importers from Europe. Thus a three-cornered exchange of credit instruments serves to adjust balances, which would otherwise necessitate the shipment of gold from North to South America and thence to Europe.

When Standards Differ.

Another complication arises in connection with foreign exchange when the monetary systems of the countries considered are not based on the same standard. Between the United States with its gold standard and China with its silver standard there is no fixed par of exchange. The general principles regulating rates of exchange are the same in such cases as for two countries with the gold standard, but the range within which such rates may fluctuate admits of no precise definition. This is an inconvenience that will be avoided only when the gold standard has been universally adopted.

A Country's Gold Supply Regulates Itself.

§ 205. The importation or exportation of gold, which is the resort to which international bankers must have recourse when foreign credits and debits can be balanced by no cheaper means, causes a continuous redistribution of the world's supply of that metal. The last and most important point to note in the theory of foreign exchange is that this distribution is self-regulating and always gives to each country that proportionate share of gold which is needed to keep its rate of interest and level of prices in their normal relation to those of other countries. Suppose the cause of the movement of gold from one

country to another to be a rising bank rate of interest. As gold pours in and is added to bank reserves in the country affected it will tend to check such a rise, and meantime bank rates abroad, where bank reserves have been depleted, will tend to rise to re-establish the normal relation. If the cause of the higher rate in the gold-importing country was some temporary demand for bank loans, bankers will find their reserves too large when the emergency has passed, and will lower their rate of interest to attract borrowers. This process cannot go far, without causing an exportation of gold to re-establish the balance. Suppose, again, that the importation of gold has been induced by the low prices at which commodities are being sold in the importing country. Such importation will before long itself cause prices to rise, there being more money to serve as a medium of exchange than before, while the withdrawal of gold from other countries will in time cause their prices to fall. These results will follow the more promptly because ordinarily the new gold will find its way into bank reserves and will add to the use of credit as a medium of exchange much more largely than it adds to the country's supply of standard money. In the same way its exportation will serve ordinarily to deplete bank reserves and to cause a contraction of credit that will lessen the supply of media of exchange by much more than the amount of gold lost. By these means the movement of gold in one direction is soon checked with every likelihood that a counter-movement will follow, unless the new distribution proves permanently satisfactory because of some increased need on the part of the importing country.

The United States Should Normally Export Gold.

It follows from the above considerations that the importation or exportation of gold is not a matter of any special importance either to the business community or to the government so long as a country's monetary system is kept in a sound condition. If gold is leaving a country, as it left the United States in 1893, because its place is being taken by an excessive issue of credit money, grave uneasiness may well be felt. If, on the other hand, it is being imported because of a violent contraction of credit that has suddenly increased the demand for legal money as a means of payment, as it

was into the United States in the autumn of 1907, there is again ground for anxiety. Experience of movements of gold excited by causes like these has led American business men to attach exaggerated importance to this phenomenon even when the reasons for it are perfectly normal. There is a widespread belief, inherited from the Mercantilists of the eighteenth century, that to gain gold is an advantage and to lose it a disaster. Even in countries which produce no gold themselves there is no basis for this belief. They can count confidently on retaining their proportionate share of the world's gold so long as their money and credit systems are sound. For a country like the United States, which contributes each year nearly one-fourth of the total addition to the world's gold supply, the belief is absolutely groundless, since the normal condition for the United States is to export its surplus gold, as it exports its surplus cotton and wheat.

Unsettled Monetary Problems.

§ 206. Although the subject of money was one of the first to engage the attention of economists and thousands of volumes and pamphlets have been written concerning it, there is still great difference of opinion in regard to some of the problems which it presents. These have been styled "unsettled," to warn the reader that in the following sections controverted points are considered and that he must be on his guard against accepting too readily the opinions of the author. The first problem relates to the factors which determine the value of money or—what is the same thing—the level of prices.

Demand and Supply in Relation to Gold.

The influences which connect the value of the dollar of the United States with the value of 23.22 grains of gold have already been explained (Sections 184-185). So long as these continue active the gold standard must be maintained and "the value of money" will be merely another expression for the value of gold. Our problem reduces therefore to an explanation of the circumstances which determine the value of gold. In previous chapters it has been shown that the value of any commodity depends transiently upon the temporary relation between the demand for it and its supply and in the long run on the more permanent influences which adjust the normal supply to the normal demand. The demand for a

commodity springs from the various uses to which it may be put. In the case of gold we may distinguish these as the industrial and arts uses, which give rise to what we will call the " arts demand," the use as a medium of exchange, which gives rise to the " monetary demand " proper, and the use as a reserve of value for the redemption of credit money and credit instruments generally, which gives rise to a secondary monetary demand, which we will call the " reserve demand." An increase in either of these three forms of demand tends to increase the value of gold and incidentally to withdraw it from other uses to the use in connection with which the increase in demand has arisen. On the other hand, a decrease in the supply of gold will tend to increase its value. Unless the increased demand is balanced by an increased supply or the decreased supply by a decreased demand, the increase in value will actually occur and the level of prices will fall. Exactly opposite results, of course, follow a decrease in either form of demand or an increase in supply.

Three Different Kinds of Demand.

§ 207. The demand for gold—which under our free and gratuitous gold coinage system is the same as money—is as definite and limited as is the demand for any other commodity. For it is not true, as some writers have stated, that " money is the one thing of which no one ever has enough." Such a view confuses the desire for wealth in general with a demand for money and loses sight of the fact that the amount of money each one can use advantageously depends on the amount of his wealth and the nature of his business. The limitations on the demand for gold, or money, become evident as we consider the three different kinds of demand.

The Arts Demand.

The arts demand is very general and highly elastic. At present it is believed to absorb between one-fourth and one-third of the annual production, and in the future it may be depended upon to increase with the growth of the world's population and wealth.

The Monetary Demand.

The monetary demand for gold depends on the number of exchange transactions to be effected with gold coin as the medium. No exact calculation of the number of exchanges to be effected can be made, but it is obvious that this is only because of the incompleteness of

our information and not because the number is not limited and measurable. As already pointed out only a small proportion of the exchanges that are effected use gold as their medium. The vast majority employ credit in its various forms. In the United States gold coin is hardly used at all as a medium of exchange east of the Mississippi River. Where money is required, the various forms of token and credit money supplied by the government are found more convenient. Moreover the use of money of any kind is the exception rather than the rule in all advanced countries. Book-credit, checks, drafts, money orders, bills of exchange, etc., are the usual means of payment employed by twentieth century business communities. In consequence the monetary demand for gold is the least important of the three forms of demand and the one most likely to decline in relative importance in the future, because of the increasing preference of progressive countries for forms of credit as their media of exchange.

The Reserve Demand.

The reserve demand for gold includes not only the demands of governments which have to provide for the redemption of their token and credit money and of banking institutions which have their credit obligations to meet, but also the demand of individuals who wish for any reason to have by them a store of the precious metal. This demand has increased greatly in the last thirty years in consequence of the fact that most of the countries which have established the gold standard during that period, have contented themselves, as has the United States, with securing sufficient gold to insure the convertibility of their other forms of money without actually withdrawing these from circulation. This has necessitated in all parts of the world the accumulation of large gold reserves. Exact statistics in regard to the extent of the gold reserves held by all the governments and banking institutions throughout the world are not available, but judging from the amount of gold that is known to be held in the United States and some of the leading countries of Europe, it is safe to say that more than one-third the entire stock of gold in existence is required to satisfy the reserve demand. Moreover, if our anticipation that the monetary demand for gold will decline in the future is well grounded, there must be a relative in-

crease in the reserve demand, since every extension of the use of credit implies additional reserves on the part of the governments or banks which supply the credit media. This increase will not be so rapid as it has been in the recent past when one country after another has adopted the gold standard and there has been at times a veritable "scramble for gold," but it should cause the monetary and reserve demands for gold combined to keep pace with the growth of population and wealth. Considering all three forms of demand together we may conclude that the demand for gold in coming years is likely to grow at about the same rate as the world's wealth, but that it will be subject to violent fluctuations until the machinery of credit is so perfected that it is no longer liable to the periodic breakdowns which were so common during the last century.

The Supply of Gold.

§ 208. The supply of gold admits of more exact measurement than the demand for it. According to different authorities the world's stock by 1850 equaled between $2,000,000,000 and $3,000,000,000. The production since that date has amounted to about $13,000,000,000, so the present stock is between $15,000,000,000 and $16,000,000,000. The history of gold production since 1840 is briefly summarized in the following statistics. From 1841 to 1850 the annual production averaged $36,000,000, which was three times the average annual production for the preceding years of the century. From 1851 to 1860 the annual average was $133,000,000. The total of $134,000,000 attained in 1860 was not equaled in any subsequent year until 1892. The lowest point was reached in the early eighties, since which time there has been a fairly steady increase, as shown by the following table:

WORLD'S PRODUCTION OF GOLD

Annual	average,	1871-1880 . . .	$115,000,000
„	„	1881-1885 . . .	99,000,000
„	„	1886-1890 . . .	113,000,000
„	„	1891-1895 . . .	161,000,000
„	„	1896-1900 . . .	258,000,000
„	„	1901-1905 . . .	322,000,000
„	„	1906-1910 . . .	433,000,000
„	„	1911-1914 . . .	461,000,000

As these statistics indicate, the production of gold responded but slightly to the increased monetary and reserve demands prior to 1896. Since that date the response has been increasingly adequate. In consequence of the South African War production was temporarily interrupted in 1900 and 1901. In 1902 the upward trend was resumed and until 1913 each year's output established a new high record, with every indication that production on an ample scale would be continued for an indefinite time to come. **Explanation of Table.**

A comparison of the tendencies that have been described, as regards the demand for and the supply of gold since the early seventies, suggests the probability that during the period of expanding demand and small production, which preceded 1896, the value of gold would have appreciated markedly, and that with the return of demand to normal conditions and the notable increase in production since its value would have depreciated. That just such an up and down movement—or down and up movement, if we look at the phenomenon from the viewpoint of prices—occurred, is proved by a study of the statistical evidence. **Conclusion.**

§ 209. The value of money is measured, as is the value of anything else, by the quantity of other commodities for which it will exchange. When two periods are to be compared a difficulty arises because the value of money will be found usually to have changed in different directions as regard different commodities. This is avoided by the method of index numbers. To illustrate its use, suppose that wheat, anthracite coal, pig iron, cotton cloth and copper be taken as representative of all commodities, and that it be found that on January 1st of a certain year one dollar would buy one bushel of wheat, one-fifth of a ton of anthracite coal, one-twentieth of a ton of pig iron, twenty yards of cotton cloth or ten pounds of copper, while on January 1st of another year a dollar would command three-fourths of a bushel of wheat, one-fourth of a ton of coal, one-tenth of a ton of pig iron, twenty-five yards of cloth or five pounds of copper. Using 100 as the index number for the different commodities we should write out the following tables for the two dates: **Measuring the Value of Money or the Level of Prices.**

January 1, First Year		January 1, Second Year	
$1 = 1 bushel wheat	= 100	$1 = $\frac{3}{4}$ bushel wheat	= 75
" = $\frac{1}{6}$ ton coal	= 100	" = $\frac{1}{4}$ ton coal	= 125
" = $\frac{1}{20}$ ton iron	= 100	" = $\frac{1}{10}$ ton iron	= 200
" = 20 yards cloth	= 100	" = 25 yards cloth	= 125
" = 10 pounds copper	= 100	" = 5 pounds copper	= 50
$5 =	500	$5 =	575
or $1 =	100	or $1 =	115

The calculation indicates that the value of a dollar, as measured in these five commodities, increased between the two dates from 100 to 115, or 15 per cent. By extending it to include all commodities, we could obtain similar averages for the two dates that would seem to give a comprehensive view of any change in the value of money that might have occurred between them.

Other Methods. This method, called that of simple averages, is open to the objection that it treats all commodities as of equal importance in their influence on the value of money. It is obvious that there will be chance of error if such diverse goods as, for example, coal and chewing gum each be given the same index number for the purpose of a calculation. To avoid this three different expedients have been proposed: (1) to confine the calculation to the principal commodities which figure in a country's trade or consumption; (2) to assign different index numbers to different commodities "weighted" so as to correspond to their different degrees of importance; (3) to repeat important commodities in different forms in the calculation so that they will have greater influence on the result than unimportant commodities that appear but once. Space will not permit a detailed consideration of the merits of these different plans, but the general observation may be made that in practice the method of simple averages, judiciously employed, has been found to lead to about the same conclusions as the more elaborate methods proposed as substitutes for it.

Relation Between Level of Prices and Value of Money Illustrated. Whichever method for measuring the value of money, or gold, be used, it is usually more convenient to make the calculation in terms of the prices for which commodities sell than in terms of the quantities of commodities which a given sum of money will purchase. Any conclusion in regard to changes in prices may be readily translated into a conclusion in regard

to the value of money, since, as already explained, they are in reciprocal relation to each other. To give a concrete example, suppose that a study of prices shows a rise of 25 per cent in the general level during a given period. This signifies that commodities which formerly cost $1.00 will now cost on the average $1.25. This being the case, $1.00 will now purchase only four-fifths as much as it would before, or its value will have fallen one-fifth, or 20 per cent.

Price Statistics.

§ 210. Since serious attention began to be given to the influence of price fluctuations on prosperity, numerous elaborate investigations have been made into the course of wholesale prices over long series of years. Representative of such investigations is that continued year by year by the United States Bureau of Labor,* the results of which are indicated on the chart on the next page.

Discussion of Chart.

Unfortunately this investigation begins no farther back than 1890, so it should be supplemented by the results shown by other inquiries. A comparison of all important investigations tracing the course of gold prices from 1870 to 1890 proves conclusively that the fall in prices during the years 1890 to 1897 shown on the chart was the culmination of a downward movement, which began in the early seventies and which involved a total decline of nearly if not quite 50 per cent, or, what is the same thing, an appreciation of 100 per cent in the purchasing power of gold. After 1897, as shown by the chart, prices rose continuously—except for slight reactions in 1901 and 1903—until the autumn of 1907, the total advance in the decade being over 44 per cent, or involving a depreciation in the value of gold of nearly 31 per cent. The "October panic" of 1907 abruptly checked this upward tendency but the index number for the year of depression which followed (1908) fell only to the level which had prevailed in 1906 and then rose in 1909 and 1910 to the highest level yet reached. Whether

* Price statistics in regard to the 250 odd commodities included in the investigation, together with the index numbers showing the course of average prices for the whole period covered, were published each year until 1912 in the March numbers of the *Bulletin of the Bureau of Labor.* Special bulletins are now issued dealing with wholesale and retail prices, respectively. For a full description of other calculations, see Laughlin, *Principles of Money,* Chap. VI.

the slight decline in 1911, like the earlier ones, is to be temporary only and prices are to resume their upward swing with the return of prosperity, to the indefinite cheapening of gold, is a question the answer to which must have a determining influence on the future of the gold standard. Before we proceed to this topic, we should pause to consider the influence which these marked changes in the value of gold have had in shaping public opinion in regard to the merits of that metal as a standard.

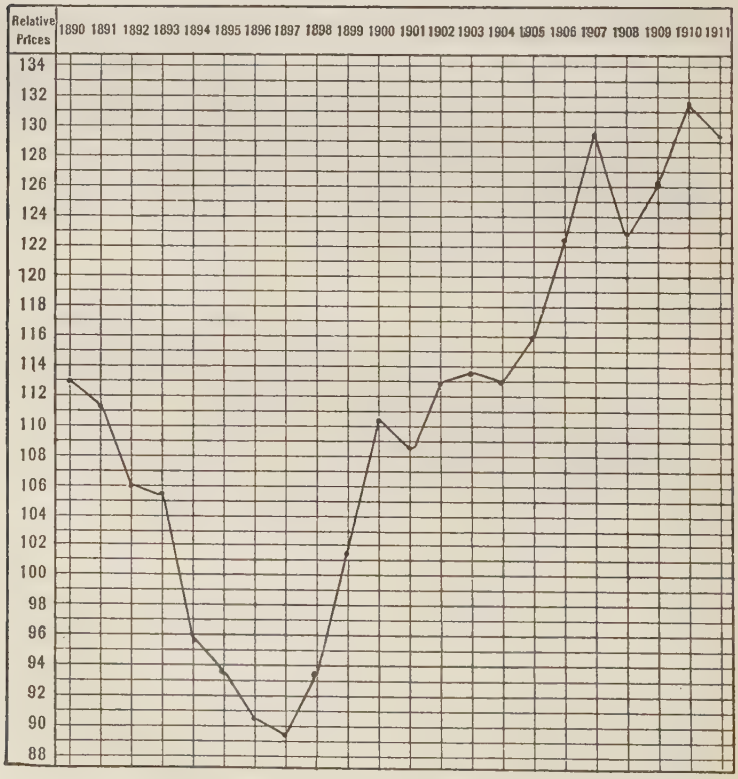

FIG. 10. RELATIVE PRICES OF COMMODITIES, 1890 TO 1911
(Average for 1890 to 1899 = 100)

International Bimetallism.

§ 211. The adoption of the single gold standard was vigorously opposed not only in the United States, but in European countries, on the ground that the supply of gold was inade-

quate to satisfy the needs of all nations. It was long contended, and is still by many thoughtful persons, that a much better monetary system for the world would be one which combines both gold and silver. Some countries, like England and her colonies, which have long had the gold standard, might continue on that basis. Others, like Mexico and China, which are accustomed to silver only, might maintain the silver standard. The best interests of all would be served, it is argued, if the remaining countries, which use both gold and silver, could agree upon some scheme of "international bimetallism" which would establish a fixed value relation between gold and silver and insure their continued use as the standard money materials of the world.

Triumph of Gold Standard.

For a time it seemed as though the fears of bimetallists in reference to the insufficiency of the gold supply were well grounded. Gold prices did, as we have seen, fall with alarming persistency, and the effect of the steady decline on the temper of the business community was decidedly unfavorable. If the suggested remedy could have been applied in 1873, the results might have been generally beneficial. Nothing was done, however, notwithstanding repeated international conferences, and after 1897, when gold prices began to rise again, the principal reason for action was removed. At present it is the general consensus of opinion that "international bimetallism," even if economically and politically practicable, is no longer needed and that any international agreement that is made should have for its object the extension of the gold standard to the few countries that are still on silver and paper bases, with a view to giving greater stability to foreign exchange relations. In other words, gold has been accepted as the standard of value of the world, and the monetary problem of contemporary interest to practical business men is how to extend this standard to countries which for special reasons do not care to make gold coin, even on a limited scale, their medium of exchange.

The Free Silver Agitation.

In the United States the agitation for bimetallism assumed a more radical form than in Europe, the demand being made that the country embark alone upon the attempt to maintain a constant value ratio between gold and silver by throwing

its mints open to the free coinage of the cheaper metal at the mint ratio of 16 to 1. This was made the dominant issue in the presidential campaign of 1896, when the Republicans opposed to the Democratic declaration in favor of the free coinage of silver a somewhat vague indorsement of international bimetallism. Again in 1900 free coinage was an issue, but already the reasons for the agitation had been withdrawn and there seems little likelihood of a revival of the question, at least in the same form. So fast has history been made in this field that what was but yesterday a burning political issue is now a question of merely historical interest.

Future of the Gold Standard.

§ 212. The future of the gold standard hinges upon the question whether the value of gold is likely to show a fair degree of stability in coming years, and whether any more stable standard, which is equally convenient in other respects, is attainable.

As to the first point, present indications are believed to be very favorable. The transition to the gold standard has been accomplished, or is in a fair way to be accomplished in the near future, for the whole commercial world. Under these circumstances there is every reason to anticipate only that gradual increase in the world's demand for gold that will result from the gradual growth of the world's wealth and expansion of its exchange transactions. On the side of supply, production in the immediate future promises not only to be ample, but to be governed more exactly by the normal expenses of production than it ever has been in the past. Discoveries of new sources of supply and inventions affecting methods of mining and refining have, during the last ten years, advanced gold production in many parts of the world to the precision of a manufacturing industry. In quartz mining in the Rand district in South Africa and in placer mining in the low-grade gold-bearing soils, which it is now profitable to treat by means of expensive hydraulic appliances, the expense of producing gold can be accurately estimated and the output can be increased or decreased on a considerable scale as changes in the value of the product make either course desirable. Thus the normal expenses of production promise to be the regulator of the value of gold in the future, as they have been

Influences Steadying the Value of Gold.

of other freely reproducible goods in the past. During the last ten years a readjustment has been going on in consequence of the discovery of new gold fields and of cheaper methods of recovering the precious metal. But unless the discovery of other and even cheaper sources of supply intervenes, the fall in the value of gold cannot long continue because every advance in prices which accompanies it makes gold mining more expensive. Materials, tools, machinery, wages and other items of expense rise as gold falls. As a result the margin at which gold mining continues to be profitable is a progressively higher one and the production of gold must be checked correspondingly. It would be idle to venture to prophesy in regard to the future course of the value of gold, but this at least may be said: Unless new and cheaper sources of supply are discovered, there is every prospect that its value will be more stable during the next decade than it has been at any period during the last sixty years.

The Multiple Standard.

§ 213. Those who believe that the gold standard will one day be superseded base their faith, not on any alleged advantage of some other commodity standard of value, but upon dissatisfaction with all commodity standards. Perfect stability of value is certainly unattainable along this line. One remedy suggested is the adoption of an immaterial standard, called the "multiple standard," whose value may be kept uniform by artificial regulation. The plan is somewhat as follows: Since the value of the monetary unit is determined by the relation between demand and supply, and since paper money is the medium of exchange preferred in the more advanced countries, let each government take upon itself the regulation of its monetary system and substitute fiat for self-regulating money. Let a special department of issue and redemption be created to adjust the supply of such money to the demand for it in such a way that the general level of prices shall be kept uniform from month to month and year to year. This may be done, it is suggested, by issuing additional legal-tender paper notes as prices tend to fall and withdrawing such notes —perhaps by the sale of low interest-bearing bonds—as prices rise. The measurement of prices might be made by means of index numbers in some such way as was described in

Section 209 and the effort would be to keep the index number constantly at 100.

Space will not permit discussion of the possibilities of a fiat, multiple-standard monetary system. There is, perhaps, no good theoretical reason for asserting that such a system could not be maintained by a country that was politically and commercially ready for it. On the other hand, no extended argument is necessary to prove that practical business men will continue to view the plan as unworkable until the defects of the gold standard have been so conclusively demonstrated that there is a more widespread demand for a different system than has yet developed.

REFERENCES FOR COLLATERAL READING

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CHAPTER XXII

THE TARIFF QUESTION

Foreign and Domestic Trade Compared.

§ 214. The difference between foreign and domestic trade is a difference of degree only. It happens that the continent of Europe is divided up among more than a dozen different sovereignties, and this causes trade among its different parts to be largely foreign. On the continent of North America, on the other hand, it happens that only three sovereignties are represented. Of these the United States alone controls an area nearly as large as the continent of Europe and presenting equally striking diversities of soil and climate. Trade among different sections of the United States is domestic, and yet the same considerations which, for example, cause California to produce oranges, lemons and olives for the rest of the country, cause Italy to produce the same things for the rest of Europe. In both instances trade results from the efforts of men to realize the economies connected with a territorial division of labor, that is, to devote each particular area to those products for which it is best adapted, while securing from other areas, by means of exchange, their special products

Peculiarities of Foreign Trade.

Although foreign and domestic trade are thus controlled at bottom by identical principles, economists are in the habit of singling out foreign trade for special treatment, partly because it is frequently subjected to regulations from which domestic trade is exempt, and partly because back of these regulations are differences in race, nationality and political ideals which play their part in shaping economic conduct. One effect of these differences has already been noted, that is, the unreadiness of workmen to give up home and country for the sake of the higher earnings that may be obtained in other places. In consequence of this "immobility of labor," differences in wages between different countries persist generation after generation and play their part in shaping foreign

trade. Differences in interest rates traceable to the immobility of capital, although less marked, are not without their influence also.

Principle Controlling Foreign Trade.

The guiding principle which controls foreign trade is summed up in the statement that each country produces for export those things which it can produce most cheaply, and imports in exchange those things which other countries can produce most cheaply. In the absence of trade restrictions, the capital and labor force of each country tends to be assigned to those branches of production for which it has the greatest natural or acquired aptitude. The selection is not determined absolutely, but by comparative standards. One country may have an absolute advantage over other countries for the production of hundreds of different commodities, but its interest and wage rates may be so much higher—in consequence of these very advantages—than those of the others, that it can produce more *cheaply* than they only the score or more of these commodities in which its superiority is most pronounced. Other countries must find employment for their capital and labor also and by submitting to lower interest and wage rates will be able to produce some commodities more cheaply, even though with greater expenditure of time and effort, than the superior country. An illustration of the way in which a country may produce for export commodities which it cannot produce as easily as the importing country is afforded by the trade between the United States and Germany. The United States imports from Germany cutlery, certain kinds of cotton goods and several other commodities which it could produce with less effort than their production in that country costs. Such trade is, nevertheless, mutually advantageous, because on the side of Germany it permits a utilization of capital and labor which yields larger returns in wheat, salt meat and the other goods that are imported from the United States than could be secured by the direct production of those things, while on the side of the United States it enables the country to secure the commodities imported in exchange for wheat, salt meat, etc., with less expenditure of effort than would be involved in their production. The situation of a country is not unlike that of an individual. It has a limited force of

labor and capital to employ and secures the largest return by concentrating these where they are most effective. Just as it does not pay a successful lawyer to do his own typewriting, no matter how expert a typewriter he may be, so it does not pay a country to do many things it could do more easily than its neighbors, because there are other things it can do still more easily and that, therefore, pay even better.

The Policy of Protection.

§ 215. As already stated, most countries subject their foreign trade to restrictions from which their domestic trade is exempt. These restrictions usually take the form of a tariff or taxes on goods as they enter or leave the country. When a tariff has for its principal purpose the protection of home producers from foreign competition in the home market it is called a " protective tariff " and the resulting policy is designated " protection." Before attempting to discuss the arguments in favor of such a policy we may profitably recall the advantages that may be claimed for free trade.

The Advantages of Free Trade.

As pointed out in the preceding section, the chief purpose of foreign, as of domestic, trade is to render possible the division of labor and the economies resulting from it. That this purpose will be most fully realized in connection with domestic trade if free exchange is permitted, is generally conceded. Under such circumstances each individual will tend to devote his labor and capital to that pursuit for which he is best fitted and will obtain from other specialists, through exchange, the varied products he requires. This process enables each to benefit indirectly from the special capacities of every other and leads to a maximum production for the country as a whole. But the same reasons that make free exchange within a country advantageous may be urged in favor of free trade among countries. Political boundaries do not alter the essential facts that trade is at bottom an exchange of goods for goods in which both parties are gainers, and that the freer the conditions of exchange the more highly will the division of labor be developed. Differences in the productive capacities of different countries fit some to produce some things, others, others. If free trade be permitted, each will tend to produce only those things for which it is best adapted and to rely upon other countries for the other things

desired and in the production of which the others have a relative advantage. The consequence will be a larger joint produce and a larger share of wealth for each country than it could secure if compelled to produce for itself all of the things that its inhabitants require. If restrictions on trade are to be approved, it must be because they accomplish results that compensate a country for the undoubted losses which they entail.

Arguments for Protection.

§ 216. The principal economic arguments in favor of protection may be distinguished as the infant-industry argument, the home-market argument, the wages argument and the vested-interests argument. Of these, the first two were urged in the United States as reasons for establishing a protective policy; the last are advanced as reasons for adhering to it now that it is established. All merit careful consideration.

The Infant-industry Argument: Special Form.

The infant-industry argument is presented in both a special and a general form. As it applies to special industries it rests on a recognition of the risks and difficulties which attend the domestication of new branches of production. In the successful prosecution of any industry three factors coöperate: the requisite natural resources, skilled and unskilled workmen of different grades, and the appropriate forms of capital. As regards each one of these, the country which has practised an industry has a marked advantage over the country which has not. The natural resources of the latter may be superior, but they are undeveloped; its labor force may be ample and adaptable, but it is untrained; its people may be competent to use tools and machines, but they have no familiarity with the special forms of capital needed. Under such circumstances the encouragement of a protective tariff may suffice to induce investors to establish the new industry when without it they would not venture on such a step. After a few years, if the industry to be domesticated has been wisely chosen, the initial difficulties will have been surmounted and the protective duty may be withdrawn without detriment to the now vigorous infant. Advocates of such a policy recognize quite clearly that resort to protection entails a burden on consumers. They justify the temporary loss on the ground

that the establishment of the new industry on a permanent footing will afford in the end a more than compensating gain.

General Form.

The infant-industry argument in its general form recognizes that countries must usually pass through different stages of industrial development and advocates protection as a means of accelerating progress during periods of transition from one stage to another. The best statement of this argument is that given by Friedrich List in his *Das nationale System der politischen Oekonomie,* published in 1841. The conclusions at which List arrived were based on the contrast between an industrial country like England and an agricultural country, such as Germany was at the time he wrote. In his opinion England's success as a manufacturing country was due chiefly to the development of certain industrial qualities among her people. Germany, he thought, might develop the same qualities among Germans by means of a protective policy which would force them to manufacture for themselves. Through protection the natural resources of the country necessary to the development of manufacturing would also be opened to exploitation. From this point of view protection is a temporary means by which an agricultural country may transform itself into an industrial country. After the transformation is completed the new manufacturing industries, or at least a great many of them, will be quite capable of holding their own in competition with the manufacturing industries of other countries and protection will no longer be required. Forcible as is this infant-industry argument for a new country striving to pass from the extractive industry stage to the stage of diversified industries, it can hardly be claimed that it has much application to the United States to-day. Its protected infants have long since grown into vigorous youths—at any rate in all those cases in which the natural conditions of the country were at all adapted to the new industry to be domesticated.

The Home-market Argument.

The home-market argument, as advanced by Henry Clay, the "father of the American System," was designed to reconcile the interests of the agricultural South and West with those of the manufacturing North. It rests upon the propo-

sition that the prosperity of the American farmer depends upon a regular and constant market for his products, and that such a market is to be obtained only by building up manufacturing centers within the country. When this argument was first used, the experience of the years from 1816 to 1820 was cited to prove that the foreign market is not to be depended upon and farmers were exhorted to unite with manufacturers to establish a system which should bind different sections of the country together by furthering the interests of all. To the greater stability claimed for the home market later analysis adds another merit. The home market calls not only for the staple products which will bear ocean transportation, but also for all kinds of perishable goods. Substituting it for the foreign market renders possible diversified farming and enables cultivators to substitute for exhausting, one-crop systems of agriculture, rotations of crops which serve to preserve and perpetuate the fertile properties of the soil. This advantage is believed by protectionists to outweigh the admitted losses incidental to the protective policy and to insure in the long run a greater degree of prosperity than will result from the free play of economic forces. This second argument also, from the point of view of the United States, is less cogent now than when it was first advanced. Improvements in transportation facilities have largely obliterated the differences between the home and the foreign market, and more settled trade policies on the part of other countries have made the foreign market more dependable than it used to be. It is not, therefore, of these first two arguments that most is now heard, but of the two still to be considered.

Origin of Present Tariff System.

§ 217. The present stage in the development of the protective policy of the United States has been the outgrowth of the Civil War. That struggle involved the withdrawal from Congress of the representatives of the Southern States, who had been the most active opponents of protection. Under the guidance of representatives from the North successive tariffs were passed carrying the policy to the most extreme lengths which the country had known. The change in the level of duties caused by the War is indicated by the fact that whereas under the Act of 1857 the *highest* duties im-

posed were 24 per cent *ad valorem*,* under the Act of 1864 the *average* rate of duty on dutiable articles was over 47 per cent. During the first fifteen years after the close of the war the attention of Congress was occupied by questions of reconstruction, the resumption of specie payments, etc., and no change of importance was made in the tariff except that it became increasingly protective as the internal revenue duties applying to American industries which had partly offset the high tariffs applying to the products of foreign industries were one by one removed. When attention was again concentrated upon the tariff question the protectionists were still in control of Congress. The tariffs of 1883 and 1890 were both modifications in the direction of higher duties. The Act of 1894 was a measure aiming at revision downward, but was so garbled in its passage through Congress that the tariff-reform president of the period, Mr. Cleveland, allowed it to become a law without his signature. The victory of the Republicans in 1896, although based on the free silver rather than the tariff issue, involved as an incident a return to a highly protective policy. In fact the Dingley Act of 1897 marks the extreme limit to which that policy has yet been carried in the United States. Increasing complaints of the high cost of living forced the Republicans to undertake another revision of the tariff in 1909. The Payne-Aldrich tariff that resulted was so little satisfactory to the country that the Republicans lost their control of the Lower House of Congress in the following year. The election of a democratic president and of a democratic majority in both houses in 1912 led to a thoroughgoing revision of the tariff downward by the Underwood Act of 1913.

The Wages Argument.

During this last period the wages argument and the vested-interests argument have played an important rôle. Before protection became the established policy of the country, one of the reasons urged in its favor was that, since wages were higher in the United States than abroad, some special encouragement was necessary to the introduction of new in-

**Ad valorem* duties, or duties based on value, are to be contrasted with *specific* duties based on quantity (*e. g.*, so much a pound or a bushel).

dustries to enable employers to compete with the low-wage labor of Europe. After protection became a settled fact, by an interesting inversion, *it* began to be given credit for the high wages of American labor. The wages argument runs as follows: In protected industries higher wages are paid in the United States than in similar industries abroad. Protection, therefore, causes high wages, and its withdrawal would tend to pauperize American labor. This overlooks certain important considerations. First, equally high wages are paid in unprotected as in protected industries, and the former, which in the United States include farming, mining, transportation and many branches of manufacturing, vastly exceed the latter in importance and magnitude. Second, employers, whether protected or unprotected, desire to secure their labor as cheaply as they can and there is nothing in a protective tariff which forces them to pay higher wages than are current in the community in which the protected industries are located. In other words, employers in protected industries pay the wages they must to get the labor they require, and these depend not upon the protective tariff, but upon general industrial conditions. Third, it is not true that high wages and protection always go together. For example, wages in protectionist Germany are lower than in free-trade England. For these reasons the wages argument, although still effective for campaign purposes, has never enjoyed much repute among trained economists.

The Vested-interests Argument.

Side by side with the wages argument, with its appeal to the "labor vote," is urged the vested-interests argument, which appeals especially to conservative owners of property. This emphasizes the loss of capital that must result if the protection that certain industries enjoy should be withdrawn and these industries should be exposed to the full force of foreign competition. That some capital would be lost in the process of readjustment to free trade conditions cannot be denied. It would seem more rational, however, to advance this as a reason for making the transition from protection to free trade gradual rather than as a reason for the indefinite continuance of protection—unless convincing independent arguments can be given for that policy.

Quite as influential as the economic arguments in favor of protection that have been reviewed, has been the ambition of American statesmen to cement the bonds which unite different sections of the country by means of a tariff which should make them mutually dependent and at the same time independent of Europe. This was to be accomplished by developing the division of labor to the highest point within the country, without giving any encouragement to the international division of labor upon which foreign trade rests. Horace Greeley, the influential editor of the New York *Tribune,* expressed this view of protection with his usual clearness in the following declaration: "If I had my way I would put a duty of $100 a ton on pig iron, and a proportionate duty on everything else that can be produced in America. The result would be that our people would be obliged to supply their own wants, manufactures would spring up, competition would finally reduce prices and we would live wholly within ourselves." From this point of view the chief function of protection is to serve as a Chinese wall to preserve the United States from the "contamination" of foreign influences. Uneconomic and even irrational as such an ideal must appear, it cannot be doubted that it makes a strong appeal to many patriotic citizens. But for it tariff controversies in the United States would have had little of the moral earnestness which has characterized them whenever protection has been the issue.

The Political Argument.

§ 218. One argument against a protective tariff is its inevitable complexity in comparison with a tariff for revenue only. This is illustrated by the Underwood Tariff of 1913, which, while lowering duties in every schedule, still retains the essential characteristics of a protective measure. Thus, instead of enumerating only the articles subject to duty, it attempts to enumerate all of the articles which enter into our import trade. The result is a law which covers more than 100 octavo pages and refers to more than 3000 different articles, of which more than 300 appear in the so-called "free list," that is, as not subject to duty. Dutiable articles are classified into fourteen schedules, lettered from "A" to "N." The rates of duty imposed range from five per cent on bar iron, copper

The Underwood Tariff.

plates, and a few other simple manufactures to 60 per cent on costly silk goods, jewelry, playing cards, and a few other luxuries. The duties on textiles, which in the tariff of 1909 averaged 54, 56, and 90 per cent on manufactures of silk, cotton, and wool respectively, were reduced to 47 per cent on silks, 43 per cent on cottons, and 34 per cent on woolens. The comparatively slight reduction on silks was due to the fact that they were regarded as luxuries and therefore as suitable objects for high revenue duties. On the other hand, the great fall in the duties on woolen goods was the consequence of the abolition of the duty on wool and of the compensatory duty on manufactures of wool which this had made necessary. An even clearer indication of the intention of the framers of the law to effect a substantial lowering of duties was the change in the rate applying to all articles not specifically enumerated from the 45 per cent of the previous tariff to 10 per cent on unmanufactured and 15 per cent on manufactured articles. The reduction in the average rate of duty on dutiable goods as a whole was from 42 per cent (1910) to 33 per cent (1915). Even more important than the reductions in duties were the additions which were made to the free list. These included iron ore, pig iron, steel billets, steel rails, barbed wire for fencing, and nails of all kinds, in the metal schedule, and, in the other schedules, coal, coke, lumber, wood pulp, bagging, print paper, flax, hemp, wool, salt, and practically all stable food products, such as potatoes, the common grains, swine, sheep, cattle, fresh meats, and eggs. Raw sugar was also to have been placed on the free list after May 1, 1916, but before that date arrived need of additional revenue led Congress to postpone this change indefinitely. In consequence of these additions to the free list 63 per cent (in value) of the goods admitted to the country in 1915 paid no duty in contrast with only 49 per cent admitted duty free in 1910.

Burden of High Duties.

The reduction of the average rate of duty to 33 per cent still left a heavy burden on American consumers of the articles which remained subject to taxation. Nor is the burden adequately represented by the statement that consumers of imported commodities which compete with Amer-

ican products must pay, in addition to the freight charges, on the average 33 per cent more than such products are worth abroad. Much heavier is the burden which results from the exclusion of foreign products and the enhancement of the prices of American goods. The higher prices that consumers must pay for protected goods in order that they may be produced at home afford no revenue to the government, although they add so largely to the expense of living in the United States.

The Making of a Tariff.

Space will not permit a more detailed description of the tariff of 1913. Though a long step in the direction of freer trade, it is still so cumbrous and complicated as to bewilder the average citizen who seeks to understand its provisions. This tariff, like the Payne-Aldrich Act which preceded it, was framed by the Ways and Means Committee of the House of Representatives on the basis of such information as its members could secure in the limited time at their disposal from the different departments of the government and from interested citizens. It underwent important changes in the Senate and as finally enacted included many compromise provisions which satisfied no one. This method of framing a tariff was so obviously unsatisfactory that the Republicans who controlled Congress in 1909 had appended to the Payne-Aldrich law a provision for the creation of a Tariff Board, to study the effects of the duties imposed and advise the lawmakers as to future changes. When the Democrats came into power in 1913, they naturally looked with suspicion upon this board as a Republican invention and soon abolished it by failing to make appropriations for its continuance. It is significant that criticism of their own efforts at tariff making soon caused Democratic leaders, and particularly President Wilson himself, to change their opinion. Accordingly a new Tariff Commission was created just before the adjournment of Congress in the summer of 1916. At the time of writing the members of this commission have not yet been appointed, but it is the general expectation that competent experts will be selected and that their advice will have weight in determining any changes in the tariff made during President Wilson's second term. Since both political

parties are now committed to the principle of maintaining a permanent tariff commission to advise the President and Congress with reference to tariff problems, there is reason to hope that future American tariffs will be free from the mistakes and "jokers" that have too often marred those of the past. It may even be that under the guidance of this commission the American plan of attempting to enumerate all articles likely to be imported will give way to the simpler method of enumerating only articles subject to taxation and of confining such list of articles within moderate limits. The revenue tariff of the United Kingdom * is in striking contrast with the American protective tariff which has just been described. It contains but a few items and since it serves no special interest, except that of the government, may be drawn up in a simple and business-like way. Its financial results can be foretold with a high degree of precision, and its capacity to yield revenue is as great as that of the more burdensome protective tariff, since, whether many or few, the duties imposed must draw the revenue they afford from the pockets of the same people.

Weakness of Arguments for Protection for United States To-day.

§ 219. Arguments in favor of protection should be carefully weighed against the general argument in favor of free trade, not as abstract propositions, but with reference to the concrete circumstances of each particular country. The result of such a procedure applied to the present industrial situation of the United States is, in the opinion of the author, decidedly unfavorable to the claims of protectionists. National economic independence, the first and perhaps the strongest reason urged in support of protection, has long since been achieved and would not be endangered in the slightest degree by a change of trade policy. The infant-industry argument in its special form is now applicable to but few American industries, while in its general form it has certainly been outgrown by a country whose manufactured products already compete successfully

* In the tariff of the United Kingdom in operation on the outbreak of the war import duties were imposed on cocoa, coffee, chicory, dried fruit, tea, tobacco, wine, beer, spirits and sugar. To prevent these duties from being in the least degree protective, the production in the United Kingdom of the articles taxed was subjected to exactly equivalent internal revenue duties.

for a share of the foreign market. The home-market argument has little application to the present situation, when such a large proportion of the staple products of the country seek the foreign consumer in defiance of the tariff and when its consequence is too often tariff retaliation on the part of other countries much more unsettling in its effects than fluctuations in foreign demand, independent of hostile tariffs, could possibly be. The wages argument inverts the true relation between protection and high wages. High wages are due, as explained in a previous chapter, to the high productiveness of labor, due, in turn, to the superior natural resources of a country, its abundant and efficient equipment of capital goods, and the capacity of its enterprisers and wage-earners. It is because of high wages that protection is necessary to the maintenance of certain industries in the United States. Without it goods now produced in the country would be imported and paid for by increased production in those lines of industry which need no protection. Since labor and capital are more productive in unprotected than in protected industries, the withdrawal of protection and the concentration of labor and capital in the industries for which the country is best fitted might be expected, time being allowed for the necessary readjustment, not to lower wages, but to raise them. Certainly more wealth would be produced under the new arrangement, and labor's chance of getting a larger share would seem as good as that of any other factor in production. Thus instead of raising wages, protection serves on the whole to lower them and is itself necessary because wages were already high before it was introduced. Finally, the vested-interests argument is of weight as a plea against a too hasty reduction of duties upon which important industries have come to depend, but cannot justify the indefinite continuance of such duties if they no longer serve the best interests of the whole country. The case for protection thus appears on every count to be decidedly weak in comparison with the case for free trade. If the issue were to be decided solely on grounds of economic reasoning, it is believed that the policy of protection would be quickly abandoned.

The present strength of protection in the United States

Obstacles to Change.

rests, however, less on reasoning than on sentiment and experience. The all-important fact that cannot be argued out of the mind of the practical business man is that protection has been the policy of the country during a period of remarkable industrial prosperity. That this prosperity has been due to other causes he will not believe, or at any rate he prefers to "let well enough alone," and to refrain from disturbing a system which may have had something to do with the country's undoubted progress. This general presumption in favor of protection is reinforced by the solemn declarations of business men, in industries which have grown up under the fostering care of the tariff, that without its aid they will be ruined. Harrowing pictures are drawn of idle mills, workmen tramping the streets in the vain search for employment, and the other symptoms of decaying industry, and public opinion is made to believe that the tariff is still necessary to national prosperity. Only recently has due attention been given to the other side of the picture, that is, the diversion of capital and labor from industries for which the country is better fitted, which the tariff causes, and the stimulating effect on these industries which the removal of the tariff wall would inevitably have.

Present Status of Tariff Question in the United States.

§ 220. According to the general argument for free trade, it is the consuming public, which has to pay higher prices for protected goods, that is most injured by protection. But the consuming public constitutes no definite class and its organization as a party of opposition is highly improbable. At certain points, however, the protective tariff of the United States is already subject to vigorous attack by particular consumers. One of these is where it acts as a shield for the combinations of manufacturers, or trusts, discussed in Chapter XXV. The Underwood Tariff has put several of the articles whose production in the United States is partly controlled by trusts, such as iron ore, steel rails, gunpowder, wood pulp, print paper, salt, etc., on the free list, as well as lowered the duties on many others.

Protection *v.* Conservation.

Another aspect of protection that is beginning to receive merited condemnation is its tendency to hasten the destruction of limited natural resources. In the United States important

branches of mining, such as coal and iron, have been protected, in utter disregard of the fact that this forces the country to use up its own limited supplies of these indispensable materials when it might, in the absence of the tariff, secure at least a part of what it needs from neighboring countries. Protection has also been extended to the lumber industry, although it is notorious that the destruction of American forests is progressing at a rate that threatens grave injury even to the present generation. It seems too clear for argument that wise national policy demands the conservation rather than the destruction of limited natural resources such as those mentioned. This phase of the subject received its due share of attention in the debates in Congress which preceded the adoption of the Underwood Act, and these most objectionable protective duties do not appear in the reform tariff of 1913 and are not likely to reappear in future acts.

Interest of Producers in Free Trade.

Somewhat less direct than the burden protection imposes on consumers is the injury which it does to producers for the foreign market. They suffer in both a general and a special way. In general, protection, by curtailing imports, curtails the foreign demand for native products, or exports. This must be the case, for in the long run imports and exports pay for each other. A country which will not take the products of other countries cannot sell to them. For a short time they may pay in specie for what they cannot pay for in goods, but as pointed out in the last chapter (Section 205), the exportation of gold must soon be checked automatically by changes in interest rates and price levels. Thus the policy of excluding foreign goods from the home market in order that home industries may develop to satisfy its needs, is, from the point of view of producers for export, a policy of repression rather than of protection. To the same extent that the home market is wrested from foreigners and given to protected home producers, the foreign market is wrested from unprotected home producers. Producers for export have good reason for complaining that discrimination in favor of industries which need protection is discrimination against them. Until recently, the industries in the United States which produced for export have been the great extractive industries.

Now that manufacturers are beginning also to look to the foreign market for their customers, this adverse side of protection, to which they have been conveniently blind in the past, is likely to receive its proper share of consideration.

The special grievance which producers for export urge against protection is that it antagonizes foreign governments and leads to retaliatory measures. To the extent that the home market is secured for domestic producers, it is taken away from foreign producers. To them a policy which thus curtails their business opportunities naturally appears a policy of hostility. Protection is a game at which two can play, and its adoption by one country inevitably suggests its adoption by other countries. The United States has already been the object of tariff retaliation on the part of Russia and Germany. The danger of still severer retaliatory measures raises a doubt as to the wisdom of a policy which leads to such unpleasant consequences.

Retaliatory Tariffs.

Up to the time of the European war the hostility among nations engendered by protective policies seemed to be a relatively unimportant aspect of the problem. The aggressive nationalism of Germany and Russia appeared to be of concern to those countries but of no particular consequence to the rest of the world. The European struggle, with its staggering waste of human and material resources, shows that this aspect is really of vital significance. No plan can succeed in restoring and maintaining on an enduring basis the peace of the world, which does not remove so far as possible the more obvious of those influences which now cause hostility among nations. That protection is such an influence can hardly be disputed. If it benefits the country which adopts it, it does so only by injuring other countries. The United States has taken a firm stand against war and has played an important rôle in promoting the Hague tribunal and other agencies for substituting the authority of courts and commissions of arbitration for the authority of force as the means of settling international disputes. It has also advocated the policy of the open door for China and other backward countries. Unless its good faith is to be called in question and its contribution toward future world

peace is to be negligible, it must henceforth make the promotion of international good will and international prosperity conscious aims of its own commercial policy. This is all the more important at this time because the hatreds developed by the European war threaten to persist after the war is over in the form of retaliatory tariffs and international boycotts which are only too likely to lead to another titanic struggle so soon as the belligerents have partly recovered from this one. To these policies of international hostility, the United States should oppose a policy of international good will and friendliness. Only in this way can it hope to avoid being itself drawn into some future world war and at the same time contribute all that one nation may toward permanent world peace and world prosperity. For it the benefits to be derived from the peaceful prosecution of the many industries in which it already enjoys unquestioned preeminence so far exceed those that might result from fostering a few additional industries, that it must weigh carefully the selfish pleas of special interests for protection before enacting measures that are sure to be resented by other countries.

Tariff Cause of Political Corruption.

In addition to these economic and international arguments against a continuance of the policy of protection by the United States, there are equally cogent national arguments of a political character. The protective tariff of the United States has been the principal source of that pernicious alliance between business and politics which has threatened the very life of our democratic institutions. So long as the government protects special industries it is inevitable that those who are financially interested in those industries should attempt to frame party platforms, select candidates, and control legislation for their own private benefit. The simplest way to safeguard the government against these corrupting influences is to substitute for the policy of protecting the American producer in the domestic market the broader policy of fostering in all legitimate ways the sale of American products in all the markets of the world.

Present Outlook.

The present outlook in the United States for further tariff reform in the direction of a tariff for revenue only appears exceedingly bright. Though the tariff was by no means the

most important issue in the campaign of 1916, which resulted in the re-election of President Wilson, it was an issue that was put forward insistently by the Republican candidate. The success of the Democrats can only be interpreted as an indorsement of their tariff as of their other policies. Before 1920, when the next presidential election will occur, the country should be so fully adjusted to the lower duties of the Underwood Tariff that the demand for a return to the higher rates of tariff taxation of the past should meet with an even more frigid reception than in the recent campaign. The uncertain element in the future is the commercial policies which European countries may adopt when the present war is over. If the trade restrictions, among the Allies, on the one hand, and among the Central Powers, on the other, which are now being urged are actually put in force, the United States may be led for a time to return itself to a narrow and selfish nationalist policy. Though the immediate future of American tariff policy is thus in doubt the more remote prospect already stands out clearly. The general trend for a country in the industrial position of the United States will almost certainly be away from, rather than toward, trade restrictions. Protection, as the term implies, is a policy for the weak rather than for the strong. As the United States becomes conscious of its industrial strength it is likely to tear down its protective barriers and enter the field of free international competition in the same confident spirit as did the United Kingdom half a century ago.

REFERENCES FOR COLLATERAL READING

**Bastable*, The Theory of International Trade; *Fawcett*, Free Trade and Protection; *Sumner*, Lectures on the History of Protectionism in the United States; **Patten*, The Economic Basis of Protection; *Thompson*, Protection of Home Industry; **Taussig*, Principles of Economics, Chaps. XXXIV.-XXXVII.; Tariff History of the United States, Some Aspects of the Tariff Question, and State Papers and Speeches on the Tariff; *Stanwood*, American Tariff Controversies in the Nineteenth Century; *Tarbell*, The Tariff in Our Times.

CHAPTER XXIII

LEGAL AND NATURAL MONOPOLIES

Importance of the Monopoly Problem.

§ 221. As explained in Chapter XIII. the essence of monopoly is such control over the supply of an economic good as will enable the monopolist to regulate its price. Monopolists have it in their power, in greater or less degree, to compel the public to pay regularly and continuously for the commodities they control higher prices than are needed to cover the expenses of their production, including a fair wages-of-management. This power is not unlike the power to tax exercised by the state itself. By its means the favored few who control monopolistic enterprises derive monopoly profits at the expense of the many. The magnitude of these profits, which under a system of free, all-sided competition would be diffused throughout the community in the form of cheaper commodities, is one circumstance that lends an interest to the monopoly problem. Another and equally important circumstance is the manifest injustice involved in permitting a few persons to enjoy incomes from which the many are debarred. For these and other reasons the monopoly problem is one of the most important practical questions with which economics has to deal. In the following sections the principal types of monopolies that are found in the United States, the grounds on which they rest and the efforts that have been made to regulate and control them, are considered. Legal monopolies, as the simplest type, first merit attention.

Public Legal Monopolies.

§ 222. Legal monopolies, as already stated, may be either public or private. Public legal monopolies have been established for a variety of reasons. In Norway, moral considerations have led the government to convert the liquor business into a public legal monopoly. The tobacco monopoly of France and the salt monopoly of Saxony are conducted for revenue. In Prussia the state has taken charge of the railway business,

partly for revenue, but chiefly to insure reasonable and uniform rates to all shippers and ready control of transportation facilities in time of war or other public emergency. The chief public legal monopoly in the United States, the post-office, was undertaken with a view to facilitating and cheapening communication among different sections of the country, and these objects have always been made more prominent than considerations of revenue. As this enumeration suggests, the most common reasons for advocating and defending public legal monopolies are that the businesses under consideration require special regulation for the protection of public morals, or that they are natural monopolies in which the public has a vital interest and that that interest will be better cared for through public ownership and operation than through private ownership, even under public regulation.

Merits of Post-office.

The United States Post-office is a good example of a public legal monopoly which renders more efficient service than a private business organized for profit could possibly do. The two aspects in which its policy differs strikingly from that of businesses organized for private ends are that it undertakes, regardless of cost, to bring the mails within the easy reach of every inhabitant of the country, and that its charge for carrying mail matter is the same to all its patrons and invariable, irrespective of the distance within the country to be traversed. The educational and commercial value of these departures from ordinary business policy could not easily be exaggerated. Even if it could be proved that certain services, such as carrying the mails between the large centers of population, could be performed more cheaply if the business were in private hands, the advantage would still lie, in the opinion of most thoughtful persons, with the public monopoly. So general, in fact, is the approval of the Post-office in the United States that its success is commonly made the point of departure for arguments in favor of the public ownership and operation of a telegraph monopoly, a telephone monopoly and even a railroad monopoly. Opponents of government ownership and operation of these businesses, on their side, rarely take exception to the statement that the post-office has worked admirably, but confine themselves to pointing out the respects in which the telegraph,

telephone and railway businesses differ from that of carrying the mails, and concluding that the argument from similarity is fallacious. The arguments for and against the policy of making such businesses public legal monopolies are considered in the next chapter.

Private Legal Monopolies in the United Kingdom.

§ 223. The development of private legal monopolies presents one of the most interesting chapters in the history of English law. Reference has already been made to the prevalence of such monopolies in the days of Elizabeth and the first Stuarts (Section 7). In 1602 in the case of *Darcy v. Allen,* an English court declared a patent granting the exclusive right to manufacture playing cards for a period of twenty-one years unlawful. The Court held that, " All trades, as well mechanical as others, which prevent idleness (the bane of the Commonwealth) and exercise men and youth in labor for the maintenance of themselves and their families, and for the increase in their substance to serve the Queen when occasion shall require, are profitable for the Commonwealth; and therefore the grant to the plaintiff is against the common law and the benefit and the liberty of the subject." Notwithstanding this decision grants of monopolies continued to be made, and this led Parliament to intervene with the comprehensive Statute of Monopolies in 1624, which provided: " That all monopolies, and all commissions, grants, licenses, charters, letters patent, heretofore made or granted or benefits to be made or granted to any person or persons, bodies politic or corporate whatsoever, of or for the sole buying, selling, making or using of anything within this realm, or the dominion of Wales, or of any other monopolies . . . are altogether contrary to the laws of this realm, and so are and shall be utterly void and of none effect and in no wise to be put in use or execution." Exceptions were made of patents for new industries or inventions, which might be granted for twenty-one years, and of patents for new processes, which were limited to fourteen years. The monopolies of foreign trading companies were also exempted from the Act, as were the businesses of printing, of manufacturing saltpetre, gunpowder, ordnance and shot, and of alum mining. By later acts all of these exceptions were removed, except those in favor of patents for

new inventions and copyrights for literary and artistic productions.

In the United States.

When the Constitution of the United States was adopted, the doctrine which had become firmly established in England that monopolies, in the sense of exclusive grants, are abhorrent to the common law, was accepted as a fundamental principle. Congress was given power * to " promote the progress of science and useful arts by securing, for limited times, to authors and inventors exclusive rights to their respective writings and discoveries," but it has no power to grant monopolies for other purposes. Under our system of government the states have all the powers of which they are not expressly deprived by the state or federal constitutions or which are not conferred upon the Federal Government. Few of the state constitutions contain express provisions in reference to the grant of monopolies, but the hostility to such grants is so widespread that in practice exclusive charters have been given only to the so-called public service corporations, whose rights to the use of the public streets for their mains, wires or tracks could not, without serious inconvenience, be given at the same time to other companies. In consequence such private legal monopolies as have existed in the United States have been based on federal patents, or copyrights, or on state charters, in the nature of special franchises, obtained from state legislatures or their agents, municipal councils.

The Patent System.

§ 224. Under the patent law now in force in the United States, " any person, native or foreign, who has invented or discovered any new and useful art, machine, manufacture or composition of matter, or any new and useful improvement thereof, not known or used in this country, and not patented or described in any publication in this or any foreign country, before his invention or discovery thereof, and not in public use or on sale for more than two years prior to his application, unless the same is proved to have been abandoned, may upon payment of the fees required by law and other due proceedings had, obtain a patent therefor." The Patent Office is a branch of the Department of the Interior. It employs over a hundred trained examiners, whose business it is to study the

* Article I., Section VIII., of the Federal Constitution.

specifications submitted and satisfy themselves that the invention or discovery for which a patent is sought falls within the requirements of the law. A patent gives to the inventor the sole right to manufacture and sell his invention for seventeen years, unless it has been previously patented abroad, when the United States patent expires with that granted by the foreign country. In Great Britain the life of a patent is shorter, being only fourteen years, but under certain conditions it may be renewed for seven or even fourteen years longer, so the practical difference between the two countries is not great.

Arguments for and against Patents.

Three different arguments are advanced in favor of granting patents. The most familiar is that they foster invention and discovery by insuring to the inventor adequate reward for his trouble. Another common argument is that they induce inventors to make their discoveries public. The third argument, which applies to the more complex inventions of recent years, is that but for the protection which a patent affords, capitalists would be unwilling to risk their means in the development of new processes. There is doubtless reason in each one of these contentions and together they are usually accepted as sufficient justification for some kind of a patent policy. The present patent system of the United States is, however, citicised on several grounds: (1) Some people deny that men who have a genius for invention and discovery require any special inducement to follow their natural bent. (2) Others point out that in practice those who reap the rewards of monopoly under our patent laws are more often business men and corporations, who acquire control of patents and turn them to commercial account, than the inventors themselves. (3) It is urged that important inventions and discoveries are the joint products of many minds and that to reward unduly the lucky individual who gets first to the patent office is to disregard the services of other investigators. (4) It is maintained that many of the patents taken out are suppressed by those who have vested interests to protect and that in consequence, instead of promoting progress, our patent law actually retards it. (5) The fact that the present rapid progress in methods of production renders most processes and

methods obsolete before they have been in use seventeen years is emphasized, and it is asserted that for this reason improved processes are usually of little value to the public when the patents on them expire.

Discussion of Arguments.

In answer to the first of these objections it may be asserted that while genius needs, perhaps, no incentive to follow its natural bent, talent does, and that the great majority of inventions and discoveries have been made not as strokes of genius, but by laborious study and experiment. Under these circumstances it can hardly be conceded that inventors and discoverers are not influenced like other people by the expectation of financial return. To the second point it may be answered that in many cases making an invention commercially successful is as important a service as making the invention. For example, it would be difficult to decide in connection with the invention of the steam engine whether Watt or his business partner, Boulton, deserved the more credit for the ultimate result. But for Boulton, Watt would almost certainly have died a broken-hearted " visionary " and his experiments with steam be remembered only by antiquarians. Nor is it true that any large proportion of inventors fail to get some return for their inventions when these prove to be commercially successful. They are apt to be men who are carried away by one success and who squander all they receive from one invention in the vain effort to impress upon the public the value of others. A patent law which would make all successful inventors die rich would need to modify human nature. The third criticism overlooks the real justification of a patent policy. No scheme could be devised that would reward inventors in proportion to their merits. All that can be done is to offer them a special stimulus to encourage them to give thought and trouble to the problem of improving on present methods and present appliances, so that the public may benefit. This the present law does by giving the reward to him whose application for a patent is first received.

Reforms Proposed.

The fourth and fifth objections point to two definite weaknesses in the present patent law of the United States: it permits the suppression of inventions, and it grants a monopoly for the same rather long period of years to all inventors,

irrespective of the character of their inventions or the use to which they are put. It is easier to recognize these defects than to suggest satisfactory remedies. To cure the first, it has been proposed that the law require proof from the patentee that some use, which benefits the public, is being made of his patent within three or four years of the time when it is taken out, and that in the absence of such proof the patent be revoked. This plan has been tried in other countries and found to work satisfactorily. Various remedies have been suggested for the second defect. The government might reserve the right to buy up a patent at an appraised valuation, whenever this course seemed expedient. A decisive objection to this plan is that under our form of government there is little reason to think that such a right would ever be exercised. Another plan is to compel those owning patents to share them with others on payment of a fair rental or royalty. The difficulty here would be to determine what a "fair" return might be. A third plan is to impose a progressive tax on patents, increasing year by year, with the provision that failure to pay the tax would work forfeiture of the patent right. Finally, it has been proposed to reduce the term for which patents shall be granted from seventeen to ten years and to follow the United Kingdom in permitting renewals for five or ten years in cases where the public interest seems to require it. The last plan has the advantage of simplicity. It also meets more fully than any other single change proposed the objections urged against the present system, without itself being open to serious objection.

Present Status of Patent Law.

Patents in the United States are the direct and indirect cause of large monopoly profits. Some of the more successful, such as the Bell telephone patent, have earned large fortunes for hundreds of different people and helped to build up monopolies which, when not controlled as regards their methods of doing business and rates of charge, have continued, long after the patents have expired, to yield large monopoly returns. Moreover patents have become so numerous of late years, being now issued at the rate of 34,000 a year (1911), that they figure in nearly every branch of manufacturing enterprise. Several of the trusts owe their ability to control the

branches of production in which they have been organized to ownership over all important patents. Some of them (*e. g.*, the Shoe Machinery Trust) have used this ownership so as to compel persons buying their patented products to buy also accessories supplied by them, and in this way have extended the monopoly afforded by the patent to other commodities only remotely connected with it. A recent decision of the Supreme Court * holding a similar procedure to be warranted by the provisions of the present patent law has caused so much criticism that at the time of writing (1913) Congress is seriously considering a bill which, if enacted, will limit a patentee's exclusive rights hereafter to the commodity actually covered by the patent.

Important as patents undoubtedly are as sources of monopoly income, it would be easy to exaggerate the extent to which they lead to the suppression of competition. A large number of them are for the protection of rival processes and serve to stimulate rather than to diminish competition among those employing the different methods. Only when a patented process is distinctly superior to all other known processes for effecting the same result does it give rise to an exclusive monopoly, and even such monopoly is subject, of course, to the limitations which have already been discussed.

Labels and Trade-marks.

Besides granting patents, the United States Patent Office registers labels and trade-marks on receipt of a modest fee. These have been of importance chiefly in giving a solid basis to what is known as the "good will" of a business. A manufacturer who acquires a reputation because of the quality of his products may adopt a trade-mark to distinguish them from others. In the organization of the trusts, brands and trade-marks have been frequently recognized as among the valuable assets of the businesses to be absorbed.

Copyright.

§ 225. The basis of copyright, "the exclusive right to multiply for sale copies of works of literature or art," is similar to that of patent right, and the reasons for it are even more obvious. The introduction of copyright in Europe followed soon after the invention of printing, but the first general English law on the subject was not enacted until 1710. At

* Dick *v.* Henry, decided in 1912.

present copyright in England covers the life of the author and a period of seven years after his death, with the proviso that the total period of monopoly is not to exceed forty-two years. The first national copyright law of the United States was passed in 1790 and resembled closely the English statute of 1710. It was amended several times and finally superseded by the general Act of 1870. The period for a copyright in the United States is twenty-eight years, but the author or his direct heirs have the privilege of securing a renewal for fourteen years more, so that the total period is forty-two years as in England. In comparison with the laws of other countries these provisions are none too liberal. In Mexico copyright is perpetual. In Spain it continues eighty years after an author's death, in France fifty years and in Germany thirty years.

Defects in Present Law.

Although the copyright law grants a monopoly for a longer period than the patent law, little if any fault is found with it because the monopoly is of such a limited character. Even with this protection, authors and artists as a class are far from enjoying excessive incomes and those who succeed in obtaining large monopoly profits from their products serve as a needed incentive to the great army who find it difficult to make even a living from their work. Instead of being criticised for being too liberal in its provisions, the American copyright law is attacked because it does not extend the same protection within the United States to the works of foreign authors and artists which the latter enjoy at home. A discussion of this objection would carry us too far from the subject of monopolies and monopoly profits, but it certainly seems anomalous for a country which protects nearly all industries which require it, to allow its authors and artists to be subjected to the competition of pirated editions and copies of the works of foreigners. The provisions of the Act of 1891, granting to foreigners on reciprocal terms the privilege of securing copyrights in the United States by having their books printed simultaneously in this country, remedies the evil only for the works of authors of established reputation.

§ 226. Of all forms of monopolies those which are most widespread in the United States are what we have styled

Importance of Natural Monopolies.

natural monopolies. Under this head are included monopolies of situation, such as the anthracite-coal combination, and monopolies of organization, such as municipal gas, electric lighting and street-railway companies, telegraph, telephone, express and railway companies, and, in fact, all transportation industries except those which use the free public streets or free public waterways and enjoy no advantage over other patrons of the same facilities. The importance of these businesses scarcely needs to be emphasized. The anthracite coal strike of 1902 demonstrated conclusively the country's dependence upon that commodity. Its dependence upon monopolies of organization is even more pronounced. As industry is now organized the services rendered by transportation companies are indispensable to the business success of nine-tenths of the enterprisers in every community. Water, gas or electric light, and street-railway transportation have become necessaries of life to dwellers in cities. Quite as important is steam-railroad transportation. Without it farmers and manufacturers would be deprived in large measure of the markets for their goods and compelled to turn their attention to production for the gratification of their own wants or to supply the restricted local markets that could be reached through other means of transportation. The conviction that the transportation businesses enumerated are not adequately regulated by competition is only gradually taking shape in the public consciousness. For this reason a good deal of attention is given in this and the following chapters to the explanation of the circumstances which make these businesses natural monopolies and therefore proper objects of legal regulation and control.

Natural Monopolies of Situation.

§ 227. Among natural monopolies of situation are included unique mineral springs, like those that have made famous Carlsbad in Austria and Saratoga in the United States, and a host of other minor monopolistic enterprises. It may be questioned whether any out-and-out monopoly of situation that is of national importance has yet been perfected in the United States. The combination between the producers and carriers of anthracite coal in Pennsylvania has, however, reached a point at which it presents many of the characteristics

of monopoly, and a description of it seems not out of place in this connection.

The Anthracite-coal Combination.

The anthracite-coal combination has been rendered possible by the limited area within which anthracite coal is found. The whole field is less than 500 square miles in extent and fully nine-tenths of the product comes from the five Pennsylvania counties located near the headwaters of the Schuylkill and Lehigh rivers. Into this limited territory nine railroads have extended their lines and now serve, with the canals which they control, as the sole means of transporting the product from the mines to the country's centers of population. As long ago as 1871 the railroads, under the leadership of the Reading, adopted the policy of buying up coal lands with a view to securing an assured share of the coal traffic. It has taken them many years to acquire control of the industry and to agree among themselves as to the manner in which it should be conducted. First, it was necessary for them to enter into traffic agreements among themselves that would prevent independents from securing discriminating rates on the basis of which they might undersell the railroad coal companies. This being accomplished, the next step was to raise freight rates to a point that would make the coal business relatively unprofitable to independent producers and induce them to sell out to the railroads on moderate terms. The same rates were charged railroad and independent coal companies and this made it difficult for the independents to prove that they were being treated unfairly, although it was obvious that from the point of view of the railroads it was immaterial that their collieries were making small profits so long as they themselves were prospering. As a result of these policies the coal holdings of the railroads were year by year extended at the same time that their conflicting interests were gradually, through consolidations and community of interests arrangements, brought into greater harmony. When the anthracite miners' strike of 1900 was declared (September 17), conditions were ripe for a few final moves in the game of combination. In December of that year J. P. Morgan & Co. negotiated, for the Erie Railroad, the purchase of the Pennsylvania Coal Company, one of the largest and most successful of the independent

producers, and in this way defeated a project for building an independent railroad from the coal region to tide-water. In January, 1901, the Central Railroad of New Jersey was purchased through the same influence and turned over to the Reading Railroad. The effectiveness of these changes in consolidating the monopoly was shown by the fact that the higher price for anthracite coal, which was the immediate consequence of the strike of 1900, was continued and even increased in 1901 and 1902, to the profit of the railroads. According to a reliable estimate the railroads controlled by 1901 some 96 per cent of the anthracite deposits and actually owned over 90 per cent. The dependence of the individual operators who remain in the field upon the coal roads for access to the markets insures in ordinary times their acceptance of any agreements which the managers of the railroads may enter into for the common benefit. At the present time, July, 1913, the anthracite coal combination and the different railroads that compose it are the defendants in a suit instituted by the Attorney General of the United States charging a violation of the federal anti-trust act. While, to the lay mind, there is every indication, not only that the coal combination exists, but that its price-making power is limited only as is that of every other monopoly, by the presence of substitute commodities, such as bituminous coal, wood, petroleum and gas, there is yet some doubt as to the outcome of this suit. The only bond which holds the combination together seems to be a "gentlemen's agreement," the terms of which have thus far been successfully concealed from the courts. Unless these terms can in some way be established as legal evidence the government will probably fail in its prosecution of the combination. Whatever the outcome of the suit, however, it can hardly be questioned that so long as the agreement is adhered to the economic result will be the same as though all the roads were owned by a single corporation. The situation illustrates some of the difficulties that oppose attempts at the suppression of natural monopolies by law.

Future Policy.

Opinion is divided as to whether in future years the opportunity open to consumers to substitute other articles will serve as a sufficient check on the anthracite-coal monopoly

or whether legal interference will be necessary if the interests of the public are to be protected. Without attempting to decide the question, we may lay it down as a general principle that the government has not only the right, but the duty, to regulate a natural monopoly like the anthracite-coal combination when it appears that such a business is taking advantage of its position to charge exorbitant prices for the commodity it controls.

Other Natural Monopolies of Situation.

Some of the more important industrial combinations, such as the Standard Oil Company before its dissolution and the United States Steel Corporation, have undertaken to acquire control of the sources of supply of the raw materials they use. In neither case had this development gone far enough to justify the characterization of these businesses as natural monopolies of situation before the suits to secure their dissolution were started by the government. That their managers were consciously directing them toward this goal, however, was charged in the suits and was one of the grounds on which the Standard Oil Company was declared to be in violation of the anti-trust act. How far it may prove possible to continue this combination in effectual operation through informal agreements among its constituent corporations remains to be seen.

Natural Monopolies of Organization.

§ 228. The second class of natural monopolies embraces all businesses whose expenses of production show a steady tendency to fall as the size of the business grows. Between such businesses competition can have but one result, combination, and monopoly once established can maintain itself indefinitely because it can conduct its large-scale operations more cheaply, and therefore sell more cheaply, than any small-scale competitors that may be tempted into the field.

The Business of Supplying Water.

The transportation and delivery of water to each house in a city is a business of this kind. It is too obvious to require discussion that one company having one large supply pipe and smaller individual pipes for each house can supply water to a single street more economically than two or more competing companies. It is almost equally obvious that one company can supply the water for several adjacent streets more cheaply than competing companies each having a street to itself. In order

to pump and store water economically it is necessary to do it on a larger scale than is open to a water company which supplies houses on a single street. As regards this part of the business, economical production requires that the whole of a city of less than 500,000 inhabitants should be supplied by one company and that proportionately large sections of larger cities should be so supplied. But the mechanical is only one side of the business. When in addition are considered the economies in expenses of administration open to the larger plant, the saving due to the smaller excess storage capacity required when a shortage of water from one source can be balanced by larger supplies from other sources and all the other possible economies of combination, the reasons for characterizing the business of supplying water in cities as a natural monopoly of organization become clear.

The Gas and Electric Light Monopolies.

Quite similar to the case of a water company are the cases of gas and electric-lighting companies. They also use main supply pipes or wires and must control all the business in a large section of a city in order to be conducted most economically. Moreover, for them the saving in the expenses of administration that can be effected as the company expands is of the utmost importance because their businesses are more complex. Few familiar with these businesses deny that they are natural monopolies in the same sense as the water business, or think that competition can regulate them, except that indirect competition which consumers themselves set up between gas, electricity and petroleum as means of lighting dwellings. When, as is frequently the case, the same set of men control the municipal gas monopoly and the electric-light monopoly, even this competition becomes a rather unreliable dependence.

The Street-railway Monopoly.

§ 229. The street-railway business has many features in common with the businesses just described. A street-railway company must also have a monopoly at least of the single street on which its cars run, partly because of the useless duplication of plant that would result if a rival company were maintained and partly because of the physical limitations of the street itself which makes even one set of tracks a serious inconvenience to the public. Rival companies may be chartered to run cars on adjacent streets, however, and

this was the usual first step in the history of the relations between municipalities and street-railway companies in the United States. For a time companies operating parallel lines may compete, but their competition, as experience has demonstrated over and over again, always ends in consolidation. Each company has to have its full equipment of tracks, power houses, cars, etc., and the most expensive of these items stand as fixed and necessary charges, irrespective of the volume of business which the company handles. Suppose that two rival companies begin by halving the business for the section of the city which they serve. If their tracks are but a square apart a very slight advantage in favor of either will divert to it passengers from the other. This consideration may lead one to lower its fares; but this is a game at which two can play with about equal success and its sure consequence is loss of profits for both competitors. Realization of this fact comes quickly and causes a first step toward consolidation, an agreement as to rates of fare.

Reasons for Combination.

But there are other ways in which passengers may be attracted from a rival line. If the companies start as horse-car lines, as did the street-railway companies of all the older cities of the United States, superior management will show itself in quicker service. Every passenger drawn to the better line will add nearly his entire fare to its profit account—since the fixed charges are relatively so large and the running expenses, which alone increase with the number of passengers carried, relatively so small—and will, for the same reason, deduct nearly his entire fare from the profit account of the rival company. The successful competitor has thus a larger and larger profit fund with which to improve still further the quality of its service, while the other company is forced by falling profits to enter upon a policy of retrenchment and economy which will drive away still more of its customers. The inferior company may struggle on and pay small dividends so long as both lines use the same sort of power, but the introduction of the cable or trolley system by the superior line is likely to draw away so many of the passengers of the other that it is driven into bankruptcy—or consolidation with its rival. This in brief is the story of the street-railway busi-

ness in the cities of the United States. Its chapters have become so familiar to street-railway managers that they now usually take a short cut to consolidation as soon as a rival company is chartered to run on streets parallel to their own lines. Only in case the organizers of the new company demand too high terms is the experiment of competition actually tried and the question decided, as in the medieval trial by combat, which contestant is to take the life of the other.

Advantages of Combination.

The advantages of consolidation in the street-railway business are similar to those enumerated in connection with other natural monopolies. (1) The fixed plant may be more fully and more economically utilized. Thus, cars may be run only over the streets that are most conveniently situated for traffic, power stations may be placed more advantageously and the rolling stock may be better adapted to the tastes of different classes of patrons, new cars being used on fashionable streets and old equipment worn out where it will excite least criticism. (2) Superior ability may be employed in each department and specialization may be carried further. (3) Improved appliances may be experimented with and introduced more readily than by smaller competing companies. As regards the street railway, then, as as regards the businesses of supplying water, gas or electricity, the conclusion seems to be justified by theory and confirmed by experience that monopoly is the natural, inevitable and economically desirable form of organization.

The Telephone Monopoly.

§ 230. The next most important municipal monopoly, the telephone business, owes its form of organization to somewhat different circumstances. Unlike the business just described it is not subject to the law of decreasing expense. On the contrary electrical engineers maintain, and with apparent reason, that the larger the number of subscribers served through one exchange the larger is the expense per subscriber of rendering the service. This is because the exchange stations must be so arranged that each new subscriber—or group of subscribers where party lines are used—may have his wire connected readily by each of the many operators required in a large office with that of every other subscriber. If one operator is able to attend to the calls of fifty subscribers and the office serves one thousand, this necessitates twenty different ter-

minals at the exchange for each wire. If the number of subscribers doubles, each separate wire must be let in at forty points. If five thousand subscribers are to be served, each wire must have one hundred distinct terminals. In this way the expense at the central office increases by multiplication rather than by addition. For five thousand subscribers not five times, but twenty-five times as many connections are needed as for one thousand. Nor is there the saving of expense outside the central office in the telephone business that is to be found, for example, in connection with electric-lighting. For the best service it is necessary to have a distinct wire for each new subscriber. Fair service can be given to two parties on the same line. Four-party lines are less satisfactory. Lines serving more than four have been found to work so badly that they are now little used in cities. Thus as regards outside wiring the expense grows uniformly with the number of subscribers. There are, of course, on the other hand, economies in administration which result from an increase in the number of subscribers and which must be taken into account. On the whole it appears to be true, however, that increasing rather than diminishing expense is the law of growth in the telephone business.

Monopoly Renders More Convenient Service Possible.

Monopoly resulted in this business at the outset in the United States from the patent, which until 1895 gave the Bell companies the exclusive right to meet the need that the telephone soon came to fill. Since 1895 the monopoly has been maintained in many cities in consequence of the unwillingness of the public authorities to grant franchises to new companies. In other localities, and especially throughout the Middle West, rival companies have started up and competition has been an active influence in determining charges and quality of service. The fact that the business is subject to the law of increasing expense is favorable to the perpetuation of this competition. The consideration that opposes it is that, assuming equally prompt connections, the convenience of the community is better served by one large company than by two or more smaller ones. The larger the company the larger the number of persons with whom each subscriber may converse. One company controlling a city's entire business can put each of

its subscribers into communication with every other person in the city who has a telephone. Two or more competing companies cannot do this. Their service may be cheaper but it cannot be as extensive. In the telephone business, then, considerations of expense make for the survival of the smaller companies and the perpetuation of competition; considerations of convenience make for combination into a single company and for monopoly. For the above reasons there is still difference of opinion among telephone experts as to whether the business should be classed as a natural monopoly of organization or not. We have so classified it because, the country over, competition in the business is the exception rather than the rule. Whether this is because the business started as a legal monopoly or because it is monopolistic in its very nature time will determine.

Methods of Fixing Rates.

A study of the evolution of the methods of charging for telephone service throws an interesting light on the means by which the companies increase their charges as the number of their subscribers grows. It shows in the first place that the rates per message are higher the larger the size of the city in which the telephone is installed. Such differences in rates are sufficient to make up for a considerable increase in the expense of rendering the service in the larger places. Nor is this the only contrast. In the larger places each subscriber is apt to use his telephone more than in the smaller. By changing from the original plan of charging a lump sum for unlimited service to the plan now almost universal of charging for each message, the companies have increased the actual returns on each instrument in the larger places very considerably. To the subscriber the system of charging for each message seems fair and reasonable. To the company it is highly advantageous because it causes its receipts to grow in increasing proportion as the size of the exchange grows, although no change appears to have been made in the rates. In these ways the telephone monopoly adjusts its charges to the value of the service it renders and is fully compensated for any increase in the relative expense of supplying telephone facilities to an increasing number of patrons.

§ 231. For the reasons explained in Section 123 it is often

well-nigh impossible to ascertain the relation which the earnings of a business long organized as a corporation bear to the capital actually invested in it. This is particularly true in the case of municipal monopolies in the United States, as they have had every inducement and facility to conceal their profits by means of overcapitalization. At least two investigations have, however, been made which throw some light on the profitableness of street-railway enterprises.

Monopoly Profits of Street Railways in the United States.

According to the late Professor Spiers,* who made a careful study of the street railways of Philadelphia, the terms on which the Union Traction Company, organized in 1895, acquired control of all of the street railways in that city involved the payment by it of 5 per cent interest on the capital which had actually been invested in these lines, which he put at $35,000,000, and on an additional $75,000,000 which represented the value of the franchise or of the monopoly which the subsidiary companies enjoyed. In other words the lease called for payments aggregating nearly 16 per cent on the capital originally invested. If instead of capital invested, the expense of reproducing the plants had been taken as the criterion of the proper capitalization, the result, as he shows, would have been even more favorable from the point of view of monopoly profit. Since Professor Spiers made his inquiry the Union Traction Company has itself been leased by a new company, organized in 1902, on terms which insure a fair monopoly profit to its stockholders over and above that promised to the subsidiary companies. An even more thorough-going inquiry than that made by Professors Spiers in Philadelphia was made a few years later by a committee of the Civic Federation in Chicago. According to the Report† published in 1901, it was found that nearly $75,000,000 of the total valuation of $120,000,000 put upon the street railways of Chicago in July of that year, represented the value of franchises, or of the monopoly. The net earnings of the companies during the preceding year were found to equal 14.6 per cent on the original cost of the plants, rolling stock, etc., of the com-

* *The Street Railway System of Philadelphia*, p. 45.

† *The Street Railways of Chicago, Reprinted from Municipal Affairs*, 1901.

panies, and 20 per cent on the cost of reproducing these plants and equipment. If the results shown by these two investigations may be accepted as fairly typical of the profitableness of street-railway monopolies generally, and there is no reason known to the author for supposing that conditions in Philadelphia and Chicago have been peculiarly favorable to these businesses, the monopoly profit in the United States from this one kind of municipal enterprise must aggregate many millions each year. According to a report of the Census Bureau 799 of the 817 operating street and electric railways which did business in the United States during the year ending June 30, 1902, showed gross earnings equal to nearly $250,000,000 and net earnings of over $105,000,000. If the latter bore the same relation to the original cost of plant and equipment as was shown for Philadelphia and Chicago (that is, 14.6 to 16 per cent), from one-third to one-half of the amount ought to be credited to monopoly profit.

Of Other Municipal Monopolies.

Quite as profitable as the street-railway business have been the other municipal enterprises described as natural monopolies. If the monopoly profits from all of these businesses in the United States could be added together, it would, doubtless, be found that they amount each year to hundreds of millions of dollars. When the magnitude of these profits and the ease with which they may be capitalized are considered, the many large private fortunes which have been gained by bribing State legislatures and municipal councils to dispose of franchises for municipal monopolies for a mere fraction of their value need excite no surprise. Unfortunately, the stocks and bonds of these corporations have changed hands so frequently since they were originally issued that the men who have reaped the largest returns from them will not be affected by the tardy measures that may now be taken to secure a larger share of the benefit from these improvements for the whole people.

The Solution of the Municipal Monopoly Problem.

§ 232. The usual first impulse of the student of the municipal monopoly problem is to advocate municipal ownership and operation as a remedy, and there is much to be urged in favor of this policy. Monopolies by their very nature, concerned with services in which the whole people have a vital interest,

and limited in the scope of their operations to the particular towns or cities which they serve, these businesses, if any, it would appear, should be undertaken by municipal governments as branches of the public administration. Yet the objections to such a policy for the cities of the United States are very strong. The arguments on either side must be weighed in connection with the local conditions affecting the problem. Only in this way can a wise decision be arrived at.

Arguments for Public Ownership.

The advocates of public ownership claim the following advantages for that policy: (1) The quality of the service rendered by a branch of the public administration is likely to be superior to that resulting from private enterprise. (2) The desire for profit being removed, the charges under public ownership will be adjusted to the expense of rendering the service. From this it is argued that charges will be low and the widest use of these essentials to civilized existence will be encouraged. (3) The corrupting influence of unscrupulous corporations anxious to retain or to have extended their franchise privileges will be removed from city politics. (4) Enlarging the scope of municipal activities will enlist in the service of the city more and better officials. At the same time it will increase intelligent interest in public affairs and tend to elevate the tone of political life. This argument assumes, of course, that the new departments of the municipal government will be subjected to adequate civil service regulations. (5) Experience, it is claimed, has shown that nothing short of public ownership and operation of these businesses can secure the degree of control necessary to the safeguarding of the public interests.

Arguments Against Public Ownership.

In support of private ownership and operation the following considerations are urged in rebuttal: (1) There is no ground for assuming that the service rendered by the municipal government will be better than that rendered by private enterprise. On the contrary, if experience is to be relied upon, municipal governments will inflict on the public water, gas, etc., of qualities that would not be tolerated from private companies organized for profit. (2) The inefficiency characteristic of municipal activity is certain to show itself in high expenses of operation. These higher expenses may necessitate

higher charges than are required under private management even to afford liberal monopoly profit. (3) At the present stage of political development, public ownership and operation would mean simply more spoils for politicians. In its practical effects it would be even more demoralizing, politically, than the corrupt influence of private corporations complained of. (4) Private ownership is more progressive than public management. Though temporary advantages might result from public ownership, it is argued that this policy would sacrifice the public interest in the long run by checking improvements. (5) It is denied that adequate legal regulation and control of private companies may not be secured when the community is really alive to its own interests. Given care in the drafting of franchises and insistence that these shall lapse after a limited time, more satisfactory results may be realized, it is claimed, under private than under public ownership.

Other Considerations. These arguments, it will be seen, are partly contradictory and partly related to unconnected phases of the problem; their mere statement emphasizes the necessity of studying local conditions before declaring for either public or private ownership. In general, it is probably true that the quality of the service can be more easily controlled under public than under private management. Where quality of service is all-important, as in the case of the water supply, this furnishes an argument for the former which is not found, for example, in connection with the telephone business. On the other hand, where the methods of operation are in process of rapid improvement, as in the case of the telephone business, the superior progressiveness of private management is an argument on that side that is not found in connection with the business of supplying water. More striking even than differences between the different businesses are the differences between the political preparedness of different localities for public ownership. In certain New England towns, where public spirit is highly developed, these services may be and have been undertaken with success. In other towns of the same size in other sections, in which civic self-consciousness is just beginning to manifest itself, attempts to perform them

through the town governments have frequently resulted in failure.

The Situation in the United States and Abroad.

In the United States, up to the present time, there has been a marked tendency to rely upon private initiative and private enterprise for the performance of these services, as of other services of an industrial character. The only important exception has been in connection with the business of supplying water to dwellers in towns and cities, and this has been undertaken by municipal governments less because of any distrust of private enterprise in this field than because good water has been demanded by public opinion even before the business of supplying it gave promise of proving financially successful. On the other hand, abroad, and especially in Germany, the preference is for the public ownership and operation of businesses of this type. Where the conditions are sufficiently similar to admit of comparison, something may be learned by a study of the results of the different systems in different lands, but, unfortunately, conditions in the United States are quite unlike those in any European country, and it appears to be the rule that those who apply the comparative method to this problem prove, at least to their own satisfaction, just about what they hoped to establish when they began their inquiry.

Method of Regulating Municipal Monopolies.

§ 233. If, after carefully weighing the advantages and disadvantages of municipal ownership and operation, a community decides against their adoption, the alternative is by no means the unregulated private ownership and operation encountered in most American cities. For these monopolies, especially, public regulation and control are indispensable to the protection of the public interest. To determine how this control shall be exercised is a problem for students of politics rather than of economics, but the following general principles may be suggested: (1) Such businesses are natural monopolies, and nothing is to be gained by attempting to subject them to the control of competition. Exclusive franchises should be granted to the companies intrusted with them. (2) These franchises should be limited to a definite term of years. The term must be long enough to encourage that investment of capital that is indispensable to efficient service,

but not so long as to commit the municipality to high charges when changed conditions may make lower charges profitable. When the term expires the franchise should revert to the municipality and it should have the privilege of acquiring for itself or for a new company, at a fair valuation, the plant and equipment of the old company, in case its charter is not extended. (3) The specifications in the charter should be carefully drawn by experts so as to insure, at least at the outset, the best quality of service at reasonable rates. Charters should be granted like other government contracts to the responsible bidder offering the most favorable terms, and every effort should be made to advertise widely the provisions of the charter, and to prevent collusion between those who make bids. (4) Public service commissions should be created and given large powers of regulation and control. Space will not permit detailed discussion or defense of these principles. Although stated dogmatically, it is believed that they represent the consensus of opinion among those students of public-service corporations who recognize them as monopolies and yet hesitate to advocate for them municipal ownership and operation.

Obstacles to be Overcome in the United States.

It is one thing to lay down general principles and quite another to carry them out in practice. Only of late years has public opinion in the United States been sufficiently enlightened on the subject of municipal monopolies to demand any sort of adequate control and regulation, and in the meantime all sorts of abuses have been permitted. Perpetual charters have, in many cases, been granted on terms which permit the companies operating under them to disregard completely the interests of the public. Worse than all, public-service corporations have come to exert an influence on political parties, through contributions to campaign funds, and on public officials, through powerful and unscrupulous lobbies, which opposes a serious obstacle to efforts to control them through political means. Neglect of the question has brought about a state of affairs in which each community is confronted by a special problem, modified by local conditions, and must proceed as best it may to gain the mastery over the corporations which it has so carelessly created and allowed to grow to overweening power and influence. In dealing with such corpora-

tions vested interests must be respected, but it must not be forgotten that the true interest of the whole community is more important than that of a particular class in the community, and that every great reform of necessity inflicts hardship upon some individuals. It is the duty of the government to indemnify innocent persons who are injured by changes which are deliberately undertaken with a view to the general welfare, but it is even more its duty to make such changes. The reform and the desirability of the reform should be the predominant considerations, the indemnification an incidental accompaniment neither to be exaggerated nor lost sight of. Only thus can progress toward a better economic and political organization of society be realized.

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CHAPTER XXIV

RAILROAD PROBLEM IN THE UNITED STATES

National Monopolies of Organization.

§ 234. In addition to the municipal monopolies discussed in the last chapter there are businesses, national in their scope, which should also be classed as natural monopolies of organization. The principal are the telegraph, the long-distance telephone, the express and the railroad businesses. For them, as for municipal monopolies, the fixed charges are a chief item of expense. Thus a telegraph or long-distance telephone company, whether large or small, must maintain offices in and connecting wires between the principal centers of population or it will have few patrons. In comparison with the cost of this necessary equipment the expense of receiving and sending messages is small. It follows that one company utilizing fully its permanent plant can conduct all of the business more economically than can two or more companies needlessly duplicating plants. In the express business the situation is similar as regards terminal offices, although the tendency toward combination and monopoly is less marked than in the telegraph business, because the actual transportation of goods is effected by railways acting as agents. These circumstances make monopoly the economical form of organization for each one of these businesses. That no one of them has yet become an open monopoly in the United States is no disproof of this assertion. Public hostility to monopoly is so familiar and finds such frequent expression in legislation and the decisions of the courts, that business managers are careful to maintain the forms of competition even after the substance has departed.

§ 235. The railway business exhibits on a larger scale similar conditions to those found in the telegraph business. Roadbed and terminal facilities represent heavy fixed charges that must be met, no matter how small the volume of business.

The more fully these can be utilized in carrying on a dense traffic the smaller will be the expense for each unit of traffic. It follows that competition for business among long-distance railways partakes of the same life-and-death character that was described in connection with street railways. When one road gains an advantage and begins to swell its profits by drawing from the profits of the other company, the situation of the latter is very soon rendered desperate. It has to choose between combination with the other road on its own terms and bankruptcy, and either choice, as American experience has shown over and over again, means in the end combination and monopoly. "A railroad is thus," to quote from one of the reports of the Interstate Commerce Commission, "essentially a monopoly. This is literally true as to all local points upon its line which are reached by it alone." And it is virtually true, as the report adds by implication, even of "competitive points," since the rates at such points are now fixed quite generally by agreements among the nominal competitors.

Circumstances Making the Railroad Business Monopolistic.

§ 236. The progress toward concentration of railway control in the United States has been marked by three distinct stages. In the earlier period the railways were looked upon as beneficent agencies meriting generous public support and full confidence. Consolidations were regarded with indifference, if not with favor, and the business was permitted to develop in the direction of monopoly as rapidly as its nature dictated. About 1870 it began to be appreciated that the power of the railways for evil might prove quite as great as their power for good. The cry of extortionate rates and monopoly was raised, especially in the agricultural states of the Middle West, and an era of drastic restrictive legislation was inaugurated. For fifteen years the states tried to deal with the railway problem through state laws and state railway commissions armed with sweeping powers. The chief result of their efforts was to educate public opinion as to the real nature of the railway business and to prepare the way for Federal interference. Incidentally they forced some of the roads into bankruptcy, and compelled all of them to substitute secret for open methods for securing the centralization of control that continued to be desirable. In this second stage

Progress Toward Railroad Concentration in the United States.

secret agreements in regard to rates were substituted for competition. The ease with which such agreements might be violated suggested that to them be added definite understandings in reference to the division of the traffic among nominally competing roads. The entire business was "pooled" and then divided up in an agreed proportion among the companies entering the pool. As one provision of these pooling agreements guaranteed to each road its proportion of the revenue from the joint traffic, whether it carried its exact proportion of the freight and passengers or not, the inducement to rate-cutting on the part of individual roads was removed, and the stability of rate agreements was proportionately strengthened. Such "pools" became very common after 1880 and served to create combinations and monopolies on behalf of the roads entering into them as effective, while they lasted, as though the roads were under one management. In consequence, they became special objects of attack on the part of those who still believed in competition as a remedy for excessive railway rates. When the Interstate Commerce Act was passed, in 1887, one of its clauses expressly forbade "pooling." The Federal Anti-Trust Act of 1890, as interpreted by the United States Supreme Court, went even further, and prohibited all agreements in regard to rates. In consequence of these two measures railroad managers have been compelled during the third period of railroad development to look for other means to harmonize conflicting interests and secure the desired centralization of control. Among such means the most common have been the acquisition by one road of control over others through stock-ownership, the combination of two or more roads in holding companies owning sufficient stock in each to control them, and the development of a "community of interests" among railroads through interlocking directors and stock-ownership. In these different ways centralization of control has been extended to embrace a constantly growing proportion of the railroad mileage of the United States. Thus, while in 1890 less than half of the total mileage of the country was operated by companies controlling 1000 miles of line or more, by 1910 more than 60 per cent was so controlled. At the beginning of the new century there were indications that prog-

Federal Legislation.

ress in this direction if unchecked would go forward at an accelerated rate. In the year 1901 alone three great combinations were consummated: the Pennsylvania Railroad acquired a large interest in the Baltimore and Ohio, the Union Pacific acquired control of the Southern Pacific and the Northern Securities Company combined the Great Northern and the Northern Pacific just after these roads had acquired the Chicago, Burlington and Quincy. The lease of the Southern Pacific by the Union Pacific and the Northern Securities combination have been held to be in violation of the Anti-Trust Act, but without, apparently, interfering seriously with the unified control which they were designed to establish on a secure legal basis. The decision against the Northern Securities Company (1904) prevented the consummation of other plans of consolidation that were under consideration at the time it was rendered, but community of interests arrangements have continued to be made with the result that there is greater harmony, that is, less aggressive competition, among the great railroad systems of the country to-day than at any previous period. This does not mean that rates will be made higher than formerly. The Interstate Commerce Commission now has full power to control rates and in 1911 took a firm stand against the proposal of the railroads to advance their charges, notwithstanding that the higher prices for materials and the higher wages which they were compelled to pay made some advance seem not unreasonable. Moreover, the railroad is still restrained in its rate-making by all of the considerations enumerated in the section discussing the limitations on monopoly (Section 120), and happily the railroad business is of such a nature that low rates and a large volume of traffic are usually much more profitable than high rates and a smaller amount of business. It does mean, however, that the time has passed when competition among railroads should be longer relied upon to control the policies of railway managers.

Discrimination in Rates: Among Commodities.

§ 237. The first attacks upon the railroads, in the "Granger legislation" of the decade from 1870 to 1880, were based on the charge that their rates were extortionate, but it soon became evident that an even more serious evil in connection with them was discrimination. This may be of three kinds. First, freight

classifications may be made in such a way that particular commodities are discriminated against. For example, it has been charged against the railroads carrying wheat from the Middle West to the sea-board that they make rates on wheat so low in comparison with their rates on flour that the millers of Minneapolis and Duluth can no longer produce for export. The determination of the rates that shall be charged on different commodities presents one of the most difficult problems in the whole range of railroad practice. In general, the policy of railroad managers is so to classify articles that each shall pay as high a rate as "the traffic will bear." The more valuable the commodity, in proportion to its bulk, the higher, ordinarily, the rate it can afford to pay. On this ground the highest rates apply usually to costly finished commodities, and the lowest to staple materials. It is obvious that within the limits of this general plan there is wide range for variation, and that the railroad manager who wishes to favor the development of one industry at the expense of another, or of one locality at the expense of a rival or of one firm in opposition to its competitors, may do so in many cases merely by changing the rates on the articles to be affected.

Among Localities.

More serious, because more far-reaching in its consequences, is the second form of discrimination—that among places. Under present conditions no community lives to itself alone. Most communities produce chiefly for export to other localities and rely on other localities for most of the commodities needed to gratify home wants. As a rule, the railroad is the agency through which the exportation of surplus products and the importation of needed products in exchange are effected. It has still at certain points competitors in the public highways and in canals and water routes, but for ninety out of every one hundred communities in the United States the services of the railroad are indispensable to industrial prosperity, if not to industrial existence. Under these circumstances the power of railroads to stimulate or retard the prosperity of centers of population can hardly be exaggerated. By granting low rates they can transform even unpromising sections into busy seats of agriculture, manufacturing or mining. High rates may

have an equally deadening effect upon sections that were previously prosperous.

In general, the interest of the railroad is served by encouraging the growth of centers of population where the natural conditions are most favorable, but it often happens that special reasons lead to quite a different policy. One such reason is the necessity of sharing traffic with other transporting agencies at competitive points. If high rates are asked at such points, the temptation to break traffic agreements in order to obtain a larger share of the business is too strong to be resisted. Hence low rates usually prevail where two or more roads serve the same community, and railroad managers are only too apt to charge high rates at intermediate points. Local rates were so high when the Interstate Commerce Act was passed in 1887 that a special provision, known as the "long and short haul clause," was inserted to protect local shippers. This provides that the rates between intermediate points on the same road must not exceed rates between terminal points. Another reason for discrimination among places is the special interest which the railroad or its managers may have in the development of particular localities. It has not infrequently happened that railroad managers who have acquired large tracts of land in particular sections have deliberately lowered freight rates for such sections in order to attract settlers to them and in this way enhance the value of their holdings. The demoralizing consequences of such unjust practices have been experienced too frequently in all parts of the United States to require emphasis.

Among Persons.

§ 238. The third and worst form of rate discrimination is that among persons. The motive for such discrimination is inherent in the nature of the railway business. Unlike the farmer or the manufacturer with reference to their products, the railroad manager cannot calculate what it costs him to carry additional freight or additional passengers. His fixed charges must be met in any case. The additional expense connected with additional traffic is so small that almost any rate for the particular traffic will prove profitable so long as the open rate for other traffic is maintained. "Generally speaking," to quote again the language of the Interstate Com-

merce Commission, " he feels that he must have the traffic. His road is there, and it can be used for nothing else. The property with which he stands charged may be seriously injured without that particular traffic, and he must get it when it is moving. He cannot lie idle for better prices or more prosperous conditions. There is, therefore, a constant temptation to obtain it at any cost. Now, the rates between two competitive points have been published. The manager of one road finds that business has abandoned his line, and he believes that it is moving by a rival route. He can draw but one inference, and that is, that his competitor has secretly reduced the rate. Under these circumstances what shall he do? Shall he maintain the published rate and thereby abandon business? But that means disaster to his road, the loss of his reputation as a manager, and ultimately of his employment. What most managers actually do is to get the business by making whatever rate is necessary." *

Motives for Such Discrimination.

It may be said that railroad managers have no more reason to deal unequally with different customers than managers of other businesses; but, unfortunately, this is not the case. A situation which frequently confronted a manager at the period when discriminations were common was described by Mr. C. M. Wicker of Chicago, in testimony given before an investigating committee of the Illinois legislature. He said: " Here is quite a grain point in Iowa, where there are five or six elevators. As a railroad man I would try and hold all these dealers on a level keel, and give them all the same traffic rate. But suppose there was a road five or six miles across the country and all these dealers should begin to drop in on me every day or two and tell me that the road across the country was reaching within a mile or two of our station and drawing to itself all the grain. You might say it would be the right and just thing to do to give all the five or six dealers at the station a special rate to meet that competition through the country. But, as a railroad man, I can accomplish the purpose better by picking out one good, smart, live man, and, giving him a concession of three or four cents a bushel, let him go there and scoop the business. I would get the tonnage, and that is what I want,

* *Twelfth Annual Report* (1898), p. 18.

but if I give it to five it is known in a very short time." For such reasons railroad managers cutting their rates usually preferred to deal with one rather than with a number of shippers. The discriminating rate must be kept secret or other shippers would be dissatisfied, and secrecy was only possible where knowledge of the transaction was confined to the manager and the favored shipper. Nor were shippers themselves entirely passive in connection with discriminations. Business managers controlling large amounts of traffic at competitive points became well versed in the process of playing roads off against one another. It has even been alleged that in some cases men withdrew their entire business from one road in order to convince its traffic agent that they were getting discriminating rates from another, and in this way persuade him to grant even lower rates, when, as a matter of fact, no discrimination had existed.

Railroads and Trusts.

The reports of the investigating committees and commissions which have inquired into the practices of railroads in the United States are full of evidence as to the extent to which discriminations have been practised in the past. Some of the most flagrant cases have been brought to light in connection with investigations of the trusts. Thus, in one case the Standard Oil Company entered into a contract with a railroad, which was at the time operated by a receiver, under which the railroad was to charge it only ten cents a barrel for transporting its oil while charging other companies thirty-five cents for the same service, and was to pay to it twenty-five cents of the excessive charge imposed upon its competitors. That such an arrangement would be fatal to the competitors is obvious. There is abundant evidence that similar, if less favorable, traffic arrangements had much to do with the early success of the Standard Oil Company in crushing its competitors or compelling them to sell out to it on terms favorable to itself. In the judgment of the Interstate Commerce Commission, expressed as late as 1898, "there is probably no one thing to-day which does so much to force out the small operator and to build up those monopolies against which law and public opinion alike beat in vain, as discrimination in freight rates."

Monopoly Profits Enjoyed by the Railroads.

§ 239. That the businesses classified as national monopolies of organization have given rise and do give rise to very large monopoly profits is well understood, but reasons already explained make the exact measurement of these profits impossible. These businesses are peculiarly sensitive to public opinion and have been careful to so adjust their nominal capitalizations to their earning powers that the interest and dividends that they pay to investors seem, when the risks connected with such enterprises are considered, scarcely a fair and certainly not an excessive return. Thus the aggregate capitalization of the railroads of the United States was returned to the Interstate Commerce Commission on June 30, 1910, at $18,420,000,000 divided about equally between bonds and stock. During the year, while interest was paid on practically all of the outstanding bonds, dividends were paid on only 67 per cent of the stock, and the average return on the total capitalization was less than 4.4 per cent. Equally modest returns are shown for most of the telegraph, long-distance telephone and express businesses of the country. To get behind figures like the above to a knowledge of the relation which earnings bear to actual investment in these enterprises is a task that has only been undertaken in a few instances. It is undoubtedly true that in many cases these monopolistic businesses have proved unprofitable. For them as for other monopolies, monopoly profit is a possibility rather than a necessity. No matter how complete the monopoly which a railroad may enjoy of the traffic of a given section, it cannot make this the source of monopoly profit if the section happens to be a desert and its traffic only sufficient to employ one train a week. It is equally incontestable that many of these enterprises have proved enormously profitable. The railroads in the older and more prosperous portions of the United States have earned immense fortunes for hundreds of different investors and speculators and are now paying dividends on capital much of which was itself drawn from earnings. The enormous earnings which the railroads alone are capable of making are illustrated by comparing the figures for recent years. According to the reports of the Interstate Commerce Commission the net income of the railroads of the country

increased from $388,000,000 to $517,000,000 and the dividend disbursements from $233,000,000 to $283,000,000, from 1909 to 1910. The $50,000,000 of additional dividends were paid for the most part, not by roads which were not yielding a fair return on capital invested in 1909, but by those which even in that year were making some monopoly profit. If to the excess profits of the railroads we add those of the other national monopolies referred to, we may assert without exaggeration that the aggregate return from these sources adds its hundreds of millions of dollars to the annual income in the United States that is properly characterized as monopoly profit.

Failure of State Regulation.

§ 240. Efforts on the part of the state legislatures to regulate railroads in the United States have encountered a very serious obstacle in the clause of the Federal Constitution assigning control over interstate commerce to Congress. Their power to regulate is limited to the affairs of state roads, and these now play a very minor part in the railroad business of the country.

The Interstate Commerce Act of 1887.

Congress did not bestir itself with a view to regulating railroads engaged in interstate commerce until 1885. In that year the Senate appointed a special committee to inquire into the evils of railroad management. Its report, submitted the following year, furnished the basis for the Interstate Commerce Act of 1887. The principal provisions of this important measure were the following: (1) discriminations among persons, places and commodities were prohibited, and railroad officials granting discriminating rates were made liable to fine and imprisonment; (2) railway rates for interstate traffic were required to be just and reasonable, and any rate not just and reasonable was declared to be unlawful, and valid ground for a suit for damages by the injured party; (3) railroads were required to publish their rates and to change them only on public notice; (4) they were prohibited from charging a higher rate for a short haul than for a long haul over the same line and under similar circumstances, unless authorized to do so by the Interstate Commerce Commission; (5) pooling contracts among railroads were prohibited. The act also created the Interstate Commerce Com-

mission and made this commission responsible for its enforcement. The powers of the Commission were extended by an amending act passed in February, 1891. It may now subpœna witnesses and require testimony, even though such testimony is incriminating to the witness giving it, and call upon assistant attorneys general to bring suit in the name of the United States against offending railroads and their officials.

Notwithstanding its large powers the Interstate Commerce Commission failed during the first nineteen years of its existence to enforce some of the essential provisions of the Interstate Commerce Act. This was due chiefly to defects in the Act itself which at important points failed to give the Commission the powers it needed in order to accomplish the important work intrusted to it.

Defects in Act.

In interpreting the Interstate Commerce Act the Supreme Court of the United States took the ground that the powers of the Commission were only those clearly expressed in the statute. Thus it decided that while the Commission might declare any given rate unlawful because neither just nor reasonable, it might not prescribe a substitute rate which would be just and reasonable and therefore lawful. The Commission's power was therefore limited to condemning prevailing rates. While in practice this sometimes enabled it by repeated rulings to establish the rate it considered fair, it caused needless friction and delay. Even more serious were the repeated failures of the Supreme Court to sustain the Commission in its decisions in reference to rates. This was due in part to the policy of attorneys representing the railroads of withholding important evidence until appeal was taken to the United States courts, for the deliberate purpose of undermining the authority of the Commission.

Amendments to Interstate Commerce Act.

§ 241. The continuance of many of the abuses which the Interstate Commerce Act was designed to correct, frankly acknowledged by the Interstate Commerce Commission in its successive reports and ascribed by it to the inadequacy of its own powers, gave rise to an irresistible public demand for such modifications in the law as would put an end to discriminations and secure truly just and reasonable railroad

rates. This demand, partially appeased by the passage of the so-called Elkins Act in February, 1903, was more completely satisfied by the passage of the Hepburn law in June, 1906, and the Mann-Elkins Act in June, 1910. Together these amending acts confer on the Interstate Commerce Commission the power and dignity indispensable to the accomplishment of the important task intrusted to it. The principal changes in the law resulting from the new legislation are the following: (1) The number of commissioners is increased from five to seven and their salaries from $7,500 to $10,000. (2) The Commission is given complete control over the methods of keeping railroad accounts. (3) The penalties for granting discriminatory rates through any possible device or combination of devices are made to include imprisonment as well as fine and apply not only to the carriers and their responsible agents, but also to the favored shippers for whose benefit discriminations are made. (4) The Commission is authorized to secure injunctions restraining railroads believed to be violating the law from continuing such violations. (5) Railroads are prohibited from moving in interstate commerce any goods, other than timber or its manufactured products, which were produced directly by itself or indirectly by its authority. (6) The railroads are prohibited from changing their published rates except on thirty days' notice to the Commission and on receiving such notice the Commission is empowered to suspend the operation of the proposed new rates for four months—or ten months if necessary—until a full hearing can be held and the reasonableness or unreasonableness of the proposed rates determined. In such hearing the burden of justifying a proposed increase in rates rests on the carrier. (7) The phrase " under substantially similar circumstances and conditions " is eliminated from the " long and short haul " clause of the Act of 1887 (Section 240), so that that clause now applies without qualification except where the Commission expressly permits a departure from its provisions. (8) Finally, the Commission is given the coveted right to prescribe what rate will be just and reasonable for the future when it has decided that an existing rate is unjust and unreasonable, and on terms that greatly lessen the proba-

bility that its decision will be set aside on appeal to the courts.

The Short-lived Commerce Court.

The Act of 1910 also created a Commerce Court to stand between the Interstate Commerce Commission and the Supreme Court and to relieve that tribunal from the necessity of passing on much of the litigation that arises under the Interstate Commerce Law. As the creation of such a court was not approved by the Democratic majority which came into control of the House of Representatives a few months after it was organized, it remained in existence less than two years. The Mann-Elkins Act also provided a commission to report on the whole question of the relation of the government to the capitalization of the railroads. Notwithstanding the somewhat negative report of this Commission, Congress further amended the Interstate Commerce Act by a law passed in March, 1913, which empowers the Interstate Commerce Commission to make a valuation of the physical assets of the railroads as a basis for passing more intelligently on the reasonableness of their rates. The arguments for such a valuation are presented at the close of this chapter.

Discriminations Now Prevented.

Although these important amendments to the Interstate Commerce Act are still comparatively new, it seems already to be clearly demonstrated that they have succeeded in their principal purpose, that is, in putting a stop to discrimination in railroad rates. Whether they will be equally successful in securing just and reasonable rates must remain open to question so long as there is difference of opinion as to the correct basis of reasonable rates (Section 243).

Arguments for National Ownership and Operation of Express and Telephone Businesses.

§ 242. Many thoughtful persons, despairing of a satisfactory solution of the problem presented by national monopolies along the line of federal regulation, advocate national ownership and operation of these businesses with the same confidence that they advocate municipal ownership and operation as a remedy for municipal monopolies. The extension of the postal business of the United States to include a part of the express business, which was advocated with great regularity by many successive Postmasters General of the United States in their reports to Congress, was finally effected in 1912. Whether the parcels post, which is limited to packages weighing fifty

pounds or less, will be extended to embrace every department of the express business will doubtless depend upon the efficiency with which this new branch of the public service is administered. The enlargement of the powers of the Interstate Commerce Commission to embrace the regulation of express companies by the Act of 1906 * puts the government in a position to make exact comparisons between public and regulated private operation of this business.

Arguments for government ownership and operation, similar to those already reviewed, are advanced also with reference to the telegraph and the long-distance telephone businesses. On the other side, the most convincing argument in favor of a continuance of private enterprise in these fields is the technical unripeness of these peculiarly modern services. With the possibilities of wireless telegraphy still undetermined and with important inventions affecting the telephone following one another at frequent intervals, government ownership and operation of these businesses would seem to be, to say the least, premature. That there are solid reasons on the other side, however, is indicated by the fact that the Postmaster General recommended the nationalization of the telegraph business in his report for 1911.

Arguments for National Ownership and Operation of Railroads.

§ 243. The national ownership and operation of the railroads of the United States are an even more ambitious project. In addition to the vastly larger initial outlay that such a policy would entail and the immense increase of public officials that would result from it,† there are complexities in the railway business itself that make the success of government operation at least problematical. The principal arguments on which defenders of the government ownership program rely may be summarized as follows: (1) Discriminations would cease and in their place general tariffs, published in advance and

* Sleeping-car companies, switches, spurs, terminals and all vehicles of carriage, whether owned by the railroads or not, and pipe-line transportation companies, except those concerned with water and gas, were also made subject to the Interstate Commerce Commission by this act, as were telegraph, telephone and cable companies by the Act of 1910.

† On June 30, 1910, as many as 1,699,420 persons were on the pay rolls of the railroads of the United States. During the year preceding the railroads expended $1,143,725,306 in wages and salaries.

applying to all shippers alike, would prevail. (2) Rates might be lower, as the roads would have to earn only the three per cent or so on the bonds which the government might issue in exchange for them at the time of purchase, in place of the higher interest and dividends now demanded by stockholders. (3) In the determination of rates broader principles would be considered than those on which railway managers base their decisions. The railroads would become a great engine for the promotion of industrial and social progress. (4) The corrupting influence of private railway corporations would be removed from political life. (5) Such an enlargement of the field of government service would alter the feeling which the average American has come to entertain for holders of public office. A new type would be drawn into the public service and the whole plane of official life would be raised until the preference would be for it, as has long been the case in Germany, instead of for private activity.

Arguments Against.

To these optimistic anticipations defenders of private enterprise in the field of railway transportation oppose the following counter-arguments: (1) Rates would become rigid and instead of adapting themselves readily to changing business conditions, as at present, would force business to adapt itself to them, with industrial lethargy and stagnation as a result. (2) Loss of efficiency in organization and operation would prevent any lowering of rates under government management, at the same time that it would cause deterioration as regards quickness and convenience of service. (3) Substituting for present business principles vague rules in regard to social expediency, as guides in the determination of rates, would cause confusion without really promoting the ends sought. The question as to what constitutes just rates would become the favorite theme of demagogues, and even if not allowed to influence the rates actually charged, such men would stir up public opinion against the government in a way that must be detrimental to the public service. (4) The decision of rate questions as they affect different sections and of questions connected with railroad extensions would inevitably get into politics, and injustices even more intolerable than those now committed by the privately owned railroads would be practised

for the sake of party advantage. (5) Far from raising the plane of public service, adding so enormously to the spoils of each national election would confirm the dominance of the corrupt party machine and party boss.

Other Considerations.

In addition to these partly theoretical and hypothetical objections, the opponents of national ownership emphasize practical difficulties. European experience is dismissed as inconclusive on the ground that no European country requires more than a fraction of the railway mileage needed by the United States. The enormous cost of acquiring the present lines and the difficulty of deciding where new lines ought to be built are urged. Finally the whole proposal is characterized as a leap in the dark, when the attempt to regulate the railway business through public commissions seems in a fair way to prove successful. The last consideration merits most attention and is likely to postpone any experiments along the line of national ownership until the Interstate Commerce Commission has had full opportunity to test its ability to regulate the railroads in the public interest with the enlarged powers so recently conferred upon it.

Further Amendments Needed.

§ 244. Important as is the abolition of discrimination in rates, it cannot be accepted as a complete solution of the railroad problem. According to our analysis railroads are in a high degree monopolistic. As the country becomes more densely populated and the volume of traffic grows, the earnings of old, established railroads should show a marked tendency upward. Unless their charges are regulated by administrative decree, they are likely to become increasingly unjust and unreasonable and to afford larger and larger monopoly profits. But if the Interstate Commerce Commission is to accomplish its task of seeing to it that railroad rates are just and reasonable, not merely among themselves, or relatively, but absolutely, it must have at its command all the data necessary for distinguishing the reasonable from the unreasonable. The meaning usually attached to the phrase, "just and reasonable," in connection with charges is that they shall afford a just and reasonable return on the investment. It would be impossible at this late date to determine what the original investment in railroad property in the United States actually

was. The most that can be expected is that the Commission shall be enabled to make a fair estimate of the present value of the investment on which holders of railroad securities are entitled to a return and that it shall have some measure of control over the relation between investment and capitalization in the future. The first step toward securing a scientific basis for deciding what schedule of rates would be just and reasonable for any railroad would seem to be a careful valuation of the physical property of the railroad whose rates are to be regulated. By giving the Interstate Commerce Commission power to make such a valuation, Congress has somewhat tardily (1913) provided the means by which the Commission can carry out intelligently the duty imposed upon it by the Act of 1887. In addition to directing the Interstate Commerce Commission to make an inventory of the property of the railroads, Congress must also empower that body to control future issues of capital stock and thus to determine in the future the capital investment on which a return may be justly and reasonably claimed. Without such power, the Commission clearly cannot carry out the task which the law has all along imposed upon it, that is, to see to it that only just and reasonable rates are charged. When it has secured the information as to the value of the assets of the railroads of the country, which is now being collected, the Commission will undoubtedly discover that rates which permit only fair and reasonable profits to some roads will enable others to enjoy large monopoly earnings. Since rates must be uniform between competing points as well as high enough to enable the weaker carriers to survive, a supplemental measure will be called for imposing a differential tax on the monopoly earnings of those roads which for any reason enjoy monopoly earnings.

The Future. At the same time that regulation of the railroad industry is advanced these further steps, concessions should be made to railroad managers which they will greatly appreciate. In its amended form the Interstate Commerce Act leaves no doubt that Congress recognizes the failure of competition to regulate railroad rates in the public interest and proposes to secure such regulation through the Interstate Commerce Commission. Under these circumstances there is no longer any justification

for the sweeping prohibition in the present law of agreements as to rates, pooling arrangements, etc. Not only the logic but the practical exigencies of the situation demand that the Commission be empowered to authorize such agreements among the railroads as are not opposed to the public interest and that agreements so authorized have the force of legally binding contracts. Such a change would facilitate a more economical and stable organization of the railway business and also lessen the temptation to discrimination. The other concession is even more important. At the present time the railroads have abundant grounds for their complaint that they are over-regulated. In addition to being supervised by the Interstate Commerce Commission, they are also the objects of vexatious state regulations. The result is needless friction, confusion and expense. The time seems clearly to have arrived when the whole task of regulating the railroad business should be taken over by the Federal government. This might be most easily brought about by requiring the railroads to secure Federal charters and by exempting railroads with such charters from any but necessary police regulations by the states through which their lines run. In the opinion of the writer these important extensions of the regulative policy should be made as promptly as possible, for only in this way can our present method of solving the railroad problem be given a fair trial. Then, to repeat the words of Judge Knapp, former Chairman of the Interstate Commerce Commission, "if regulation fails, public ownership will be the next and early resort."

REFERENCES FOR COLLATERAL READING

*Reports of the Interstate Commerce Commission; Report of the United States Industrial Commission, Vols. IV., IX. and *XIX.; **Johnson*, American Railway Transportation; **Ripley*, Railroads: Rates and Regulations, Railroads: Finance and Organization, and Railway Problems, revised edition; **Raper*, Railway Transportation; *Stickney*, The Railway Problem; *Lewis*, National Consolidation of the Railways of the United States; *Dixon*, State Railroad Control; *Meyer*, Railway Legislation in the United States.

CHAPTER XXV

TRUST PROBLEM IN THE UNITED STATES

Definition of a Trust.

§ 245. The species of monopoly next calling for consideration is that represented by the industrial combinations, or trusts, which we have characterized as "capitalistic monopolies." As now used in the United States the term "trust" applies to any industrial combination which is so large as to be the dominant factor in the branch of production with which it is concerned. Many such combinations are not, of course, monopolies. Inasmuch, however, as their main purpose according to the unanimous testimony of their promoters is to escape the wastes of competition, monopoly may be said to be the goal at which they are aiming. We may define a trust, therefore, as *an industrial combination, not a legal nor natural monopoly, which seeks to throw off the restraints and avoid the wastes of competition by absorbing, controlling or forcing out of business its would-be competitors.*

Motives Behind Trust Movement.

The psychology of the combination movement is easy to understand. From the point of view of the competitors in any line of business, competition is an evil rather than a blessing. It tends to lower prices when the interest of each individual competitor demands that they be maintained. It has been too customary in economics to argue as though the only motive of the enterpriser were to enlarge the volume of his business. Quite as strong is his desire to receive high prices for his products. When producers are numerous and widely scattered and competition among them is active, the individual enterpriser must perforce content himself with such price as the market affords, and give most of his thought and attention to keeping down his expenses of production by developing his business to the size most conducive to efficiency. This last aim often leads him to cut prices in the hope of enlarging his sales, and is the force on which economists rely when they assert

that competition tends to keep prices down to the expenses of production of representative firms. Such is the situation in all branches of business in which small-scale production is the rule. Another situation is that in which a business is already concentrated into a few highly organized and shrewdly directed plants and in which the nature of the product, a protective tariff, or some other barrier, excludes foreign competition. Competition among such great industrial plants may persist, and each enterpriser may continue to seek to derive his profit by producing more cheaply and underselling his competitors. But competition is a wearing process. It is quite as likely that the competitors may agree to combine their plants and seek for profit, not through underselling one another, but through maintaining a remunerative price for their common benefit. If to this immediate advantage of combination be added the prospect that through it the expenses of production may be lowered and the competition of firms not in the combination suppressed, its attractions so far exceed those of continued independence that a trust is almost certain to be formed. As a well-known trust organizer expressed it, in words originally applied to the railroad business, "where combination is possible competition becomes impossible."

The Early Trusts.

§ 246. The first industrial combination in the United States was the Standard Oil Trust, formed in 1879 and continued in modified form in 1882. This was a union of oil refineries in Ohio, Pennsylvania and New York, brought about by the assignment of the stock of these companies to a board of nine trustees who in this way secured complete control of the business. These trustees issued trust certificates in exchange for the shares of stock assigned to them and agreed to pay all dividends declared on such stock *pro rata* to the holders of these certificates. This was, in a literal sense, a "trust," and from it all later combinations have derived their rather misleading name. Similar trusts were organized by leading sugar refiners and whisky distillers in 1887. In 1890 and 1892, in suits involving the Sugar and Standard Oil Trusts, respectively, the courts of New York and Ohio declared this form of organization illegal. The organizers of the Sugar Trust lost no time in securing a charter from the state of

New Jersey for a single corporation, the American Sugar Refining Company, which should absorb the plants which had formed the Trust. The certificate-holders of the Standard Oil Trust followed a different plan. Instead of creating one corporation, the trustees, who happened to be the owners, individually, of a majority of the stocks of the companies forming the trust, divided up the shares of these companies among themselves in such a way that they continued to control them as completely as they had under the trust agreement. This arrangement was continued until 1899, when the capital stock of the Standard Oil Company of New Jersey was increased sufficiently to permit an exchange of its shares for shares in the other Standard Oil companies. Thereafter until it was dissolved by order of the Supreme Court in 1911 the Oil Trust existed as a great holding company. The usual forms of trust organization have thus come to be the single corporation, owning outright the properties controlled, and the holding company.

History of the American Trusts.

§ 247. From the time of the organization of the Standard Oil Trust until January 1, 1898, the progress of the trust movement was slow. In that period, according to a reliable tabulation, 82 combinations were organized with a capitalization slightly over $1,000,000,000. During the next few years there occurred a veritable stampede among the managers of businesses of all kinds to enter into combinations. According to the same tabulation from January 1, 1898, to January 1, 1904, 236 combinations were formed with a capitalization of over $6,000,000,000. Among the combinations of this second period the most important was the United States Steel Corporation, the "largest corporation in the world." Its capitalization was $1,400,000,000, of which $304,000,000 was in bonds and the rest, in about equal proportions, in common and preferred stock. Not all of the capitalization of the combinations of the second period should be added to that of the first period to determine the total capitalization of the trusts of January 1, 1904. Some of the trusts failed. Others, like the Steel Corporation, were formed by combining smaller earlier trusts. Allowing for all deductions and for the capitalizations of the few trusts organized since 1903, it is safe to

estimate the combined capital of the trusts on May 15, 1911, before the process of dissolution by order of the Supreme Court was begun, at $6,000,000,000. Of this capitalization not over 10 per cent was in the form of bonds, a circumstance that explains the ability of some of these combinations, like the International Mercantile Marine Company, to continue their corporate existence, notwithstanding their almost complete failure to realize the expectations of their organizers.

Circumstances Favoring Organization of Trusts.

§ 248. The remarkable progress of the trust movement after January 1, 1898, suggests a connection between it and the contemporaneous revival of business prosperity. What that connection was is easily explained. The motives which led manufacturers to enter the trusts were the desire to escape the wear and tear of competition and to realize the economies of combination. By themselves these motives lost rather than gained in strength with the revival of prosperity. Working with them, however, was the motive of the stock operator. Promoters, underwriters and " insiders " generally, wished to realize profits from the sale of new securities on a buoyant stock market. These were the men who were most active in bringing about the combinations. The country had just passed through four years of serious business depression. Failures had been common, and even firms which had succeeded in avoiding bankruptcy had felt to the full the pressure of a relentless competition. It was in this period that the phrase " competition is the death of trade " became current and that the benefits of combination as exemplified in the successful trusts, the Standard Oil Company, the American Sugar Refining Company and the American Tobacco Company, were extolled. There seemed no reason why similar combinations might not be effected with equal success in other branches of business. The favorable mental attitude of business managers was paralleled by a very hopeful feeling on the part of the investing public. After the long years of depression, the rich returns to agriculture and other branches of industry enjoyed in 1897 set free a large surplus for investment. There was thus a ready welcome for the new securities of the industrial combinations.

Several of the combinations organized in 1898 resulted

The Rôle of the Promoter.

from the activity of energetic manufacturers in whom their associates and former competitors had confidence. They were literally "combinations" of former competitors, spontaneously entered into for mutual advantage. As time went on, however, it became more and more the rule for combinations to be effected by professional promoters, who made up for their ignorance of the practical details of the businesses that they proposed to unite by their knowledge of finance and their skill in persuading others of the merits of their plans. The method usually pursued by the professional promoter was as follows: The leading competitors in the selected branch of industry were first persuaded that combination would be a good thing for the trade as a whole and induced to give their assent to the general plan of organization. This task was usually easy. Expert appraisers were then set to work to determine the cash value of the plants to be combined. Armed with information so obtained, the promoter had next to bargain with the owners of the different plants to determine the terms upon which they should enter the combination. Meantime, a charter was secured, usually from the state of New Jersey, authorizing a certain aggregate issue of common and preferred * stock, and arrangements were made with some private banking or trust company to finance the undertaking. The arrangement between promoter and underwriter was usually that preferred stock to a certain aggregate amount should be taken at a certain price and paid for in cash, as this might be required. To this preferred stock might be added, as a bonus, an equal or even a larger amount of common stock. Besides the cash needed to purchase the plants of reluctant owners, the promoter usually required money in the treasury to insure the initial success of the combination. This also was secured from the underwriter. The promoter's own profit might come in the form of cash received from the underwriting

* Preferred stock is stock which enjoys a preference as regards both dividends and assets. The rate of dividend to which it is entitled must be paid before any dividend can be declared on the common stock. Frequently the preferred dividends are made "cumulative," that is, when unpaid in any year, they constitute a prior lien upon the earnings of the company in succeeding years, and must be fully met before any dividends can be declared on the common stock.

syndicate, or in the form of stock in the new enterprise, to be held or sold as his judgment might determine. How largely it was sometimes necessary to over-capitalize a combination, in order to satisfy the demands of all those connected with it, is illustrated by the case of the Whisky Trust. According to testimony presented before the Industrial Commission, for each $100,000 cash value of the plants taken into the combination $100,000 preferred stock and $100,000 common stock went to the owner, $150,000 common stock went to the promoter, and $100,000 preferred and $150,000 common went to the underwriter, the latter being required to furnish a certain amount of cash to serve as the working capital of the enterprise. Professor Jenks calculates that the promoters and underwriters of the trust received $10,700,000 in preferred and $13,360,000 in common stock, in exchange for $3,500,000 in cash. What their profits were it is impossible to say, but judging from the quotations for the stock immediately after the combination was launched, they probably amounted to several million dollars. In another case, that of the Tin Plate Trust, evidence was presented before the Industrial Commission showing that the promoter received $10,000,000 in common stock for his services, and that he probably realized $2,000,000 to $3,000,000 profit from the undertaking. These facts indicate the motives of the promoters and underwriters and account for their activity in bringing the trusts into being.

Facts as to Business Success of Trusts.

§ 249. That the organization of many of the trusts was not in response to any legitimate business need has been shown by their financial results. Of the 183 industrial combinations investigated by the Census Bureau in 1900, but 121 had paid dividends. Moreover, of the ninety-two paying dividends on their preferred stock, only thirty had paid also on their common stock. Thus one-third of the total number paid no dividends at all and another one-third paid no dividends to common-stock holders. Nor has this showing been greatly improved in the years that have elapsed since 1900. An intensive study of the thirty largest trusts which were organized prior to January 1, 1904, shows that, while eight have been phenomenally successful and seven moderately successful, ten have proved unsuccessful and five have been disastrous

failures. As half of the largest trusts thus failed to realize the expectations—to say nothing of the promises—of those who organized them, so half or nearly half of all of the trusts, large and small, have showed disappointing results as business enterprises. Notwithstanding the limited bonded indebtedness with which most of them started, more than a score have failed outright or been forced to reorganize in consequence of the gross discrepancies between their capitalizations and their realized earnings.

The Highly Successful Trusts.

The failure of many of the trusts serves, however, only to set out in stronger relief the sensational success which some of them achieved. Thus the Standard Oil Company of New Jersey after it took over the subsidiary companies of the Oil Trust in 1899 and up to the time of its dissolution paid the following dividends on its capital of approximately $100,000,000: 1900 and 1901, 48 per cent each year; 1902, 45 per cent; 1903, 44 per cent; 1904, 36 per cent; from 1905 to 1910, 40 per cent annually; 1911, 37 per cent. The American Tobacco Company was almost equally successful, but frequent changes in its capitalization make the history of its dividend payments too complicated a story to be told here. The American Sugar Refining Company paid 4 per cent on its common stock in the year of its organization. The following year, 1892, it paid $10\frac{1}{2}$ per cent; in 1893, $21\frac{1}{2}$ per cent; from 1894 to 1899, 12 per cent annually; in 1900, $7\frac{3}{4}$ per cent; from 1901 to 1912, 7 per cent annually. This company has also paid regularly 7 per cent on its preferred stock. Comment on the above showing is hardly necessary. Even on the assumption that all three of these enterprises were conservatively capitalized at the outset—and this is true of only the first of them—their success far exceeds anything to be met with on the same scale in the annals of competitive business.

Reasons for This Success: Efficient Organization.

§ 250. Some light is thrown on the reasons for the remarkable success of certain of the trusts, in face of the complete failure of others, by a study of the economies with which they are credited. In addition to the general economies resulting from large-scale production already discussed (Section 93), there are special advantages which pertain to combinations. One consideration favorable to the trusts is that after the first

step separating the individual firm from the corporation with a salaried president or manager has been taken, there need be no increased loss of efficiency as the business grows. Since reliance for the direction of the enterprise must be put in any case in salaried employees, it makes little difference whether these employees are few or many. An able president may hold the managers of the individual plants over which he has general supervision to as strict account for the efficient performance of their duties as that to which the directors hold him himself. The larger the enterprise the larger is the salary which it can afford to pay to its responsible manager and the abler, presumably, the manager whose services it can command. It follows, it is claimed, that instead of losing in efficiency on account of its size, a trust gains in efficiency.' The truth of this contention depends obviously upon whether the higher salary paid by a trust to its chief executive really secures a higher grade of ability. The three combinations which have succeeded most brilliantly have, undoubtedly, been directed with remarkable skill and foresight. They have devised plans for securing the loyal coöperation of their thousands of employees, and have selected for important positions the best men to be had for the tasks assigned them. The phenomenal success of the Carnegie Steel Company before it was merged into the Steel Trust furnishes an example of what may be achieved through organization. As the result of thought and experiment, Mr. Carnegie and his associates devised methods by which every employee in every department of the business, from highest to lowest, was made to feel as keen an interest in the result of his day's work as though he were to be the sole beneficiary from it. High wages and salaries were paid, and the prospect of still higher remuneration was held out to all who could increase their productiveness. The result was a business which, in spite of its huge proportions—its earnings were $70,000,000 in a single year—compared in efficiency in every department with any other enterprise, large or small, to be found in that branch of industry. But the same circumstances that enable efficient chief executives to contribute so largely to the success of trusts increase the power for injury of inefficient managers. The presidents of the highly

successful trusts have been willing to devote their unusual abilities to the great enterprises with which their names are identified because these were, in a real sense, *their* enterprises. The services of such men cannot be secured by the mere payment of high salaries. It is here that a serious obstacle to the permanent success of great industrial combinations is encountered. The few men who have the ability to direct such vast enterprises are increasingly in demand, and the chance that a board of directors which has chosen a president wisely once will do so every time the office has to be filled, is small.

Economy in Sale of Products.

A more constant advantage of trust organization is economy in connection with the sale of products. A large part of the expenditure for advertising, traveling salesmen, etc., necessary to success in competitive businesses, is necessary simply because of the competition. The sale of whisky and tobacco, for instance, is probably not increased materially by the hundreds of thousands of dollars expended annually on advertising. The sale of particular brands, however, is increased. A combination which unites all of the plants producing different brands under one management dispenses with the need for competitive advertising. The more complete the monopoly of the combination the more fully, obviously, it may economize in this department of its business. The testimony in regard to the trusts obtained by the Industrial Commission of 1902 teems with illustrations of this species of economy. Other ways in which combination lessens expenses in selling goods were also brought out by different witnesses. Thus, the practice of giving premiums may be discontinued, as also that of granting credit to customers whose business standing is doubtful in order to retain their trade.

Saving in Cross Freights.

A third advantage, especially in connection with trusts producing bulky articles, is a saving in cross-freights. An officer of the American Steel and Wire Company told the Industrial Commission that his company saved, by having plants at different points, at least $500,000 a year on its freight bill. This advantage does not apply, of course, as against local competitors who aim to sell only in the local market.

A fourth advantage is that trusts can adjust the output of their plants to the irregularities of the market better than

smaller producers. Not only are they in a position to get a broader view of market conditions, but they may organize their different plants so that those in the smaller places, where the labor supply is less steady and reliable, may be run continuously, while those in large cities may be run or shut down as the conditions of the market demand. Thus, the American Sugar Refining Company is said to have used its Brooklyn refinery as a sort of safety valve to its business. When the demand for sugar is active and the trust is understocked, its rate of production can be largely increased at very short notice by running this refinery at top speed. In the face of adverse conditions a curtailment of production is equally easy.

Better Adjustment of Production to Demand.

Among minor advantages claimed for the trusts is the ability to satisfy the different tastes of consumers by offering a varied stock of goods. This is believed to have been an important circumstance in connection with the success of the American Tobacco Company. A similar advantage is ability to supply on demand a practically unlimited quantity of any good. It has been stated that the American Sugar Refining Company has been able at times to get one-eight of a cent a pound more for its sugar than its competitors because jobbers prefer to order where they can be sure of securing at once all that they require. These various advantages which contribute in greater or less degree to the success of the trusts may be called legitimate, because they enable the trusts to perform the same services for the public more cheaply than could competing independent companies.

Other Reasons.

§ 251. Critics of the trusts charge them with three lines of policy that are squarely opposed to the general interest and therefore illegitimate. They are said to have obtained discriminating rates from the railroads in defiance of the Interstate Commerce Act, to have taken advantage of their national position to cut prices at certain points in order to stifle competition while recouping themselves by maintaining prices at non-competitive points and finally to have made unfair contracts with jobbers and retailers under which such dealers boycott the products of independent producers.

Illegitimate Practices of the Trusts.

The trust which was most widely accused of securing special

The Standard Oil Company's Advantages in Transportation.

favors from the railroads was the Standard Oil Company. That such favors were commonly enjoyed prior to the enactment of the Interstate Commerce Act was admitted even by officers of the Company. An exhaustive report on the *Transportation of Petroleum,* published in 1906 by the Commissioner of Corporations, indicates that similar favors, disguised in various ways, continued to be extended by the railroads down to the very time that this investigation was made. In addition, the large scale of its operations gave the Standard Oil Company many special advantages over its competitors. In the first place it had secured control of most of the important pipe lines conveying crude petroleum from the wells to the points where it was refined. Operators of pipe lines are now restrained by the law which requires common carriers to accord equal treatment to all shippers, but it is claimed that prior to 1906, when this change in the law was made, the Standard Oil Company persistently discriminated in its own favor. It is so much cheaper to pipe oil than to ship it by rail that control over the pine lines gave it a marked advantage over its competitors in many of the most important markets of the country. Again, in consequence of the large scale of its operations the Standard Oil Company was able to maintain a full equipment of tank cars, receiving tanks and tank wagons, and it is alleged, although it cannot be said to have been proved, that the tank cars of the Company were sometimes underbilled so that the actual was considerably below the nominal rate. Obtaining discriminatory freight rates has been proved against the Sugar Trust also. In fact enough evidence of discrimination in favor of the trusts has come to light to make it certain that this was one of the important factors in their success until as late as 1906. Not until the laws of that year and of 1910 effectively put a stop to such discrimination did competition between the trusts and their smaller rivals begin to be on fair terms so far as railroad transportation expenses were concerned.

Discrimination in Prices.

Equally definite evidence is forthcoming in reference to the second charge, that is, that the trusts cut prices in local markets to kill competition, while they maintained or raised them in markets where there was no competition. The In-

dustrial Commission made an exhaustive inquiry into the wholesale and retail prices paid in different towns in different parts of the United States for petroleum, sugar and baking powder in 1901. As a result of this inquiry it seems to be established beyond question that the Standard Oil Company charged different prices for the same product at different points, depending upon the intensity of competition. Inquiry in reference to the price-making practices of the other trusts was less conclusive. Direct interrogation of some managers indicated, however, that the practice of making special prices to fit special localities was not only common, but that it was looked upon as entirely proper and defensible. Since it is certainly the policy best calculated to advance the business success of the trusts and since it has only recently been expressly condemned in any jurisdiction, it would really be matter for surprise if the practice had not been widespread.

The third charge, that is, that some of the trusts constrained jobbers and local dealers to boycott other products, cannot be said to have been proved in any large number of cases. This was probably due, however, to the difficulty of getting the interested parties to testify, rather than to the infrequency of such practices.

Unfair Methods of Competition Charged Against the National Cash Register Company.

The specifications in the indictment against the National Cash Register Company on the basis of which twenty-seven of its officers were found guilty by a jury in February, 1913, and sentenced not only to pay fines but to serve terms in jail indicate in a concrete way the kind of practices in which some of the trusts engaged. They were:

1. It bribed the employees of competitors to reveal the secrets of the competitors' business. By this means it obtained knowledge of prospective buyers of cash registers, of customers who had ordered cash registers, of those who had purchased them but had not yet fully paid for them, of the volume of business being done by the competitors and the places in which it was being done, of inventions and applications for patents by the competitors, and of their financial condition and connections.

2. It bribed the employees of truckmen, express companies, railways, telegraph and telephone companies, to reveal in-

formation in regard to the shipping of cash registers by competitors, and in regard to communications between the competitors and their agents and customers.

3. It used its influence and the influence of its agents with banks and other institutions, sometimes going to the extent of making false statements, to injure the credit of competitors in order to prevent their securing money for carrying on their business.

4. It required its sales agents to interfere in every way possible with the sales of competitive cash registers. The means which it instructed its agents to use included the making of false statements with regard to the cash registers themselves, as well as false statements reflecting injuriously upon the business character and financial credit of its competitors.

5. It offered to sell to prospective purchasers of competitive cash registers the National's machines at much less than the standard prices and upon unusually favorable terms.

6. It induced persons who had already ordered competitive cash registers to cancel their orders and purchase from the National, by, among other things, making further reductions in the price of the National registers equivalent to the amount already paid on the purchase of the competitive cash registers. It induced persons who had already bought other cash registers to exchange them for machines of the National, whereupon it exhibited in the windows of stores where the National cash registers were for sale these machines of competitors bearing placards with, for instance, the word " Junk " printed on them, or, in other cases, with the words " For Sale at Thirty Cents on the Dollar " on them.

7. It offered for sale to prospective purchasers of other cash registers, cash registers made in imitation of those others, and at a price not only much lower than the regular price of the other cash registers, but in some cases much less than the manufacturer's cost. The cash registers which were thus offered for sale in competition were known as " knockers." The manufacture of a particular type of " knocker " was discontinued as soon as its use was no longer necessary.

8. It sometimes offered for sale " knockers " having weak

and defective mechanism. This practice had two purposes. It enabled the sales agent to point out the weak and defective mechanism and to claim that the competitive cash register had the same shortcomings. It also enabled him, in case the customer insisted upon purchasing the "knocker," to persuade the customer to purchase a genuine National machine when the "knocker," as was inevitable, speedily broke down.

9. It instructed its sales agents secretly to weaken and injure the interior mechanism and to remove and destroy parts of competitive cash registers in actual use by purchasers whenever they could get their hands upon them. The object of such instructions was obviously to cause the purchaser of a competitive cash register to become dissatisfied and to turn to the National to replace it.

10. It threatened competitors and purchasers of competitors' machines with suits for infringement of the National's patent rights, when, as it well knew, no such patent right existed, and no such suit was contemplated or would really be begun.

11. In other cases it began suit against competitors and against purchasers of competitive cash registers for infringement when it knew well that there was no ground for such suits and when there was no intention of pressing the suits beyond the point necessary to harass the competitors.

12. It organized cash register manufacturing concerns and sales concerns ostensibly as competitors of itself, but in fact as convenient instruments for gaining the confidence and obtaining the secrets of competitors.

13. It induced, by offers of largely increased compensation, the agents and employees of competitors to leave the employment of the competitors to enter that of the National.

14. It applied for patents upon the cash registers of competitors and upon improvements upon those cash registers merely for the purpose of harassing the competitors by interference suits and threats to institute such suits.

Conclusion as to Public Policy.

It needs no extended argument to prove that a trust resorting to the kinds of competition described above might make its position well-nigh impregnable, so long as its competitors were widely scattered over the country and prevented by distance and fear of complete extermination from uniting

effectively to oppose the common enemy. Such practices are as demoralizing in their influence upon business and the standards of business morality as are discriminations on the part of the railroads of the country, and like railroad discriminations they should be prevented at whatever cost to the government.

The Trusts and the Tariff.

§ 252. The view expressed in the late H. O. Havemeyer's striking phrase, "the protective tariff is the mother of the trusts," recalls another possible advantage enjoyed by these combinations. His argument was that the higher duties charged on many products in the tariffs of 1883, 1890 and 1897 permitted a margin of profit to domestic producers which encouraged a reckless duplication of plants and ruinous competition. It was to escape these that, in his view, trusts were organized. If the tariff had not assured immunity from foreign competition, no one would have cared to embark his capital in them. Once established, as a result of the artificial conditions created by the tariff, the trusts enjoyed advantages over their competitors whenever that tariff was changed, through their more intimate acquaintance with what was going on in Washington and larger capital with which to take advantage of the changes that were foreseen.

That some of the trusts in the United States have been encouraged and fostered by the protective tariff few will deny. It is even probable that some of them have grown up in industries which would not have flourished at all but for the tariff. Others, doubtless, would not have been established had not the tariff been high enough to protect them from foreign competition. At the same time it is equally certain that many of the trusts have been organized in industries that are in no wise dependent upon the tariff. Some of these, notably the Standard Oil Company, have enjoyed greater success for a longer period than any of the tariff-made trusts. If further proof of the independent origin of trusts is needed it may be found in free-trade England, where trusts are common although undoubtedly less numerous than in the United States. Mr. Havemeyer's dictum ought probably to be changed to the statement that "the tariff was the mother of some trusts." Wherever such maternity can be established a

modification of the tariff may prove a sufficient means of control, but it is also true that some of the tariff-made trusts have outgrown their leading strings and have now little to fear from foreign competition.

Other Evils:

§ 253. Among other evils charged against the trusts, three merit special attention: they are over-capitalized; they exert a corrupting influence on our political life, and they demand excessive prices for their products. Evidence has already been given (Section 248) of the tendency to over-capitalization. Trust organizers themselves did not deny that the combinations were capitalized often for two or three times the value of the tangible property which went into them, but they justified such over-capitalization on the ground that, in addition to this tangible property, there were patents, the good will of the business and the probable appreciation of certain kinds of property, such as mineral lands, to be considered. In their opinion the proper basis of capitalization is not tangible assets but earning power. Others go even further. Frankly admitting the over-capitalization complained of, they take their stand on the proposition that over-capitalization injures no one. They argue that it is indifferent whether the nominal capitalization of a business is $1,000,000 or $2,000,000. If in the first case its stock is quoted at par, in the last case, they assume, it will be quoted at 50 per cent of par, and the only result will be that two shares are regarded as one share would have been, had the capitalization been more conservative. Such apologists for over-capitalization overlook important aspects of the question. While it is true that if all of the facts in the case were known to all of the parties interested, it would make little difference what the nominal capitalization might be, this is far from true when, as is usually the case with the trusts, knowledge of the essential facts is confined to a small group of directors. At least three evils may be traced to over-capitalization. It makes more easy the wholesale swindling of the investing public which still believes, in spite of many sad experiences, that the par value of a share of stock bears some relation to its real value. It invites the deception of officials charged with the enforcement of tax laws. When nominal capitalization throws no light on the

Over-capitalization.

value of corporate property for purposes of taxation, there is every opportunity for those interested to deceive assessors as to the real value that ought to be taxed. Finally, it encourages mismanagement on the part of the company itself. However much the stock of a company may be watered, it is but natural that its responsible officers should desire to pay dividends. In the effort to perform this often impossible task they are apt to adopt lines of policy of which they would not have thought had the business been conservatively capitalized and only reasonable earnings demanded of it. In the case of the trusts such mismanagement has injured the public as well as stockholders in the enterprises affected.

Political Corruption.

The second evil, that is a corrupting influence on political life, is by no means confined to the trusts, but with them it assumes special significance. Trust managers have been accused of influencing legislation through contributions to campaign funds, of securing the election or appointment of officials favorable to their interests and of attempting to bribe attorneys general to refrain from enforcing anti-trust acts and even to corrupt the courts charged with the interpretation and enforcement of adverse laws. Proof of these accusations is rarely forthcoming, but this is believed to be rather because those possessing such proof have had every interest to withhold it than because the accusations were altogether unfounded. As the control of the trusts and the railroads of the country comes to be concentrated in fewer and fewer hands, their corrupt political influence is only too likely to increase unless vigorous steps are taken to curb it.

Monopolistic Prices.

The claim that the trusts charge excessive prices for their products is also difficult of direct proof. So many and such diverse influences affect the prices of commodities that it is almost impossible for those unfamiliar with every detail of the business concerned to judge whether a given price is or is not excessive. Notwithstanding these difficulties, an interesting investigation into the influence of the trusts on prices was made by Professor Jenks on behalf of the Industrial Commission. His conclusions were, on the whole, distinctly adverse to the contention of trust apologists that they reduced prices in consequence of the great economies they were able

to realize. In the most notable instance of lowered prices under trust management, that of refined oil, it appeared that the reduction was less, on the whole, than the decline in the price of crude oil, and consequently that the margin retained by the trust to cover its expenses of production and profit was larger than it had been before the trust was organized. The dividends paid by the Standard Oil Company afford indirect support to this conclusion. Another case carefully investigated was that of refined sugar. Here it appeared that the margin between the price of the raw and the refined product fluctuated, but that, on the whole, the margin was reduced only as competition on the part of independent refiners became severe, and that as soon as a new combination was effected it was increased so as to afford larger profits to the trust. Inconclusive though the above evidence is, its trend harmonizes with what was to be expected on general principles. The trusts were organized for profit. One of the advantages claimed for them by their promoters was control over prices. To the extent that they exercised monopoly powers, self-interest would lead them to obey the principles governing monopoly price. When economies in production did really result from their form of organization, they might find it advantageous not to raise prices, or even to lower them somewhat, in order to enlarge the volume of their sales, or to discourage competition. They would not, however, find it to their interest to lower prices to a point which deprives them entirely of monopoly profit, as competitive businesses are forced to do by the stress of competition. It may be concluded that the desire of the trusts was to maintain prices at a monopoly level, and that if they failed to do so it was because they had not the monopoly powers claimed for them by their organizers. What the effect of trusts generally upon prices may be is thus bound up with the question as to whether the trusts generally succeed in actually controlling the branches of production in which they are organized, or whether they are promoters' enterprises, which make little real difference in the competitive situation. It is quite clear from the earnings of some of the trusts that they maintained prices comfortably above their expenses of production. The

small earnings of others are equally eloquent proof of their failure to control the prices on which their success depended.

Obstacles to Solution of Trust Problem in the United States.

§ 254. Attempts to correct by means of legislation the abuses charged against the trusts have encountered a familiar obstacle in the United States—constitutional limitations on the legislative power. Under the American form of government control over industrial enterprises is shared between Congress and the state legislatures. The Constitution of the United States provides that Congress shall have control over commerce among the states. In interpreting this clause, the Supreme Court has defined interstate commerce as "intercourse and traffic between the citizens or inhabitants of different states," including "not only the transportation of persons and property and the navigation of public waters for that purpose, but also the purchase, sale and exchange of commodities." It has further held that a failure on the part of Congress to regulate such intercourse and traffic in a particular way is to be taken as a declaration that such regulation is deemed inexpedient, and that the states are therefore debarred from interference. With equal definiteness the court has indicated what is not included in interstate commerce. It has said very clearly that the business of manufacturing, among other things, is not so included. As a consequence of the interstate commerce clause of the Federal Constitution, and the interpretation given it by the Supreme Court, the states were unable to control the trusts through state laws and it was long uncertain whether Congress would be able to do so through federal legislation. The states have, of course, full power to control manufacturing operations carried on within their borders, but they have no right to interfere with any interstate commerce in which manufacturing corporations may be engaged. Thus a state can prevent a corporation, organized as a trust, from carrying on manufacturing within its limits, but it cannot prevent a corporation having its plants in other states from shipping its goods to dealers within the first state and selling them, as this would be an interference with interstate commerce. Under these circumstances, effective control of the trusts by the states could only be secured when all were ready to unite

on similar laws having this object in view. Up to the present time little progress toward such united action has been made. As an offset to the drastic anti-trust laws of some of the states, others and notably New Jersey,* Delaware, Maine and West Virginia, have deliberately liberalized their corporation laws so as to afford an asylum for the trusts for the sake of the large revenue that is to be obtained from them. On the other hand, it was not until 1911, twenty-one years after the Federal Anti-Trust Act was passed, that this law was applied to the industrial combinations in a way that established conclusively the right of Congress to control the trusts even to the point of requiring their dissolution.

The Sherman Anti-trust Act.

§ 255. Hostility to the trusts, which had much to do with the enactment of the Interstate Commerce law in 1887, led next to the passing of direct anti-trust acts. In 1889 eight states and three territories passed such acts and two states inserted anti-trust provisions into their constitutions. Congress followed in 1890 with the so-called "Sherman Anti-Trust Law." Other states and territories were not slow to fall in with the precedents so established, and before the movement spent itself more than thirty of the states passed anti-trust acts and as many as seventeen introduced anti-trust clauses into their constitutions. Some of these acts, like the Illinois statute of 1893, were declared unconstitutional on the ground that they imposed undue restraints on personal liberty.

Its Provisions.

The Federal Anti-Trust Act declares specifically that "every contract, combination in the form of a trust or otherwise, or conspiracy, in restraint of trade or commerce among the several states, or with foreign nations," is illegal, and that "every person who shall monopolize, or attempt to monopolize, or combine, or conspire with any other person or persons to monopolize any part of the trade or commerce among the several states or with foreign nations, shall be deemed guilty of a misdemeanor." Because of its sweeping condemnation of all forms of combination and the criminal

* In February, 1913, New Jersey, under the leadership of President Wilson, amended its corporation and trust laws, so that it no longer offers any special advantages to the organizers of large business corporations.

penalties attached to it, the administration at Washington showed little enthusiasm for pressing its enforcement. This hesitation was encouraged by the apparent reluctance of the Supreme Court, as indicated in its earlier decisions, to give it the application to the trusts which Congress had intended. Until the decisions dissolving the Standard Oil Company and the American Tobacco Company were rendered in May, 1911, the act was of more significance to the railroads and to labor organizations, to both of which it was early applied, than to the trusts proper.

Anti-trust Act of Ohio.

The anti-trust acts of some of the states have been even more sweeping in their provisions. Thus the Ohio statute, which went into effect July 1, 1898, and which is fairly typical of the state laws, declares:

"That a trust is a combination of capital, skill, or acts by two or more persons, firms, partnerships, corporations, or associations of persons, or of any two or more of them for either, any, or all of the following purposes:

"1. To create or carry out restrictions in trade or commerce.

"2. To limit or reduce the production, or increase, or reduce the price of merchandise or any commodity.

"3. To prevent competition in manufacture, making, transportation, sale, or purchase of merchandise, produce, or any commodity.

"4. To fix at any standard or figure, whereby its price to the public or consumer shall be in any manner controlled or established, any article or commodity of merchandise, produce, or commerce intended for sale, barter, use, or consumption in this state.

"5. To make or enter into or execute or carry out any contracts, obligations, or agreements of any kind or description, by which they shall bind or have bound themselves not to sell, dispose of or transport any article or any commodity, or any article of trade, use, merchandise, commerce or consumption below a common standard figure or fixed value, or by which they shall agree in any manner to keep the price of such article, commodity or transportation at a fixed or graduated figure, or by which they shall in any manner establish or settle

the price of any article, commodity or transportation between them or themselves and others, so as to directly or indirectly preclude a free and unrestricted competition among themselves, or any purchasers or consumers in the sale or transportation of any such article or commodity, or by which they shall agree to pool, combine, or directly or indirectly unite any interests that they may have connected with the sale or transportation of any such article or commodity, that its price might in any manner be affected. Every such trust as is defined herein is declared to be unlawful, against public policy and void."

If this act were literally interpreted, it would, as has been well said, prohibit the most ordinary forms of business contracts. It proceeds on the assumption that combination is contrary to public policy and attempts the impossible task of restoring the world to that stage of industrial development in which every producer was independent and a competitor of every other producer. Naturally the courts have not attempted literal enforcement, but in their efforts to give this and similar acts a reasonable interpretation they have deprived them of much of their significance. The experience of Texas, which succeeded in excluding the Standard Oil Company as a corporation only to have one of the paid agents of the trust come in, nominally as a private individual, and secure a large interest in the Beaumont oil field, is fairly typical of that of other states. It is the sober conviction of most students of trust legislation that the attempt to suppress the trusts through state legislation must prove futile. The great industrial combinations are national in their scope and only the national government can deal with them effectively.

The Changed Attitude of the Supreme Court.

§ 256. Congress registered its decision that a national policy was called for and that that policy should be one of suppression, in 1890. It was not until 1911, however, that its legislative condemnation began to be effectively applied to the leading trusts. It is only within the recent past, therefore, that the negative policy of suppression has been given a trial and that evidence of its futility has begun to accumulate. The policy of suppressing combinations may

also be described as the policy of *enforcing* competition. Contrasted with it is the policy of *regulating* competition. In its earlier decisions the Supreme Court took the view that the Anti-Trust Act made unrestricted competition the rule of American business. It held repeatedly that all combinations, whether reasonable or unreasonable, were prohibited. In the decisions of 1911 it introduced what it called the " rule of reason " into its interpretation of the law and declared that only unreasonable combinations were condemned. This was clearly a step in the direction of the policy of regulating competition. Although there were many critics of this less drastic application of the Anti-Trust Act, public opinion on the whole has approved the change.

The Bureau of Corporations.

Another important step in the direction of regulation was taken by Congress when it established in 1903, as a part of the recently created Department of Commerce and Labor, a Federal Bureau of Corporations. This Bureau was charged " to make diligent investigation into the organization, conduct, and management of the business of any corporation, joint stock company, or corporate combination engaged in commerce among the several states or with foreign nations, excepting common carriers, . . . and to gather such information and data as will enable the president of the United States to make recommendations to Congress for legislation for the regulation of such commerce." Almost from its inception the activity of this Bureau tended to confirm the view that publicity, based on careful investigation, would go far to correct many of the worst abuses of which the trusts had been guilty. Its reports were a potent influence in bringing about the important amendments to the Interstate Commerce Act which have largely if not entirely put a stop to discriminatory practices on the part of the railroads. They also supplied the Department of Justice with the information on the basis of which it has been able to prosecute successfully its numerous dissolution suits of the last five years.

Legislation of 1914.

Appreciation of the important service that the Bureau of Corporations was rendering and desire to make the Anti-Trust Act more specific in its condemnation of certain

abuses led Congress in 1914 to pass the so-called Trade Commission and Clayton acts. These statutes are all the more significant as indications of the trend of public opinion because passed by the Democratic party, which as recently as 1908 had advocated in its national platform the prohibition of the control by a "manufacturing or trading corporation engaged in interstate commerce . . . of more than fifty per cent of the total amount of any product consumed in the United States." No such prohibition appears in these acts!

The Federal Trade Commission Act.

The principal provisions of the Trade Commission Act * are:

(1) A Federal Trade Commission of five members, each to serve seven years at an annual salary of $10,000, is created to supersede the Bureau of Corporations.

(2) "Unfair methods of competition in commerce are declared unlawful."

(3) Prevention of such methods is made a chief task of the Trade Commission, which is empowered, when convinced that unfair methods are being used, and "that a proceeding by it in respect thereof would be in the interest of the public," to serve a complaint, hold a hearing, and order their discontinuance. If this order be not complied with, the Commission has power to appeal to a circuit court of appeals for an injunction. This court reviews the case, limited as regards questions of fact by the provision that "the findings of the commission as to the facts, if supported by testimony, shall be conclusive." The decisions of the court are exclusive and final, except that they may be reviewed upon certiorari by the Supreme Court. Appeal from orders of the Commission may be taken by persons affected to the appropriate circuit court of appeals, which may affirm, modify, or set aside such order in the same way as though appeal for its enforcement had come from the Commission.

(4) The Commission is given power to investigate corporations engaged in interstate commerce, other than banks and common carriers.

* In describing this and the Clayton Act, the author has drawn freely from his article on The New Anti-Trust Acts in the *Political Science Quarterly* for September, 1915.

(5) It may require from them annual or special reports and other information.

(6) On its own motion, or at the request of the attorney-general, it may investigate the manner in which decrees affecting industrial combinations are being carried out, and make public its findings, if it deems this wise.

(7) It may investigate any alleged violation of the Anti-Trust Acts upon the direction of the President or either house of Congress.

(8) On the application of the attorney-general, it is required to investigate practices or arrangements not in conformity with the Anti-Trust Acts, and to recommend readjustments which will bring about such conformity.

(9) On the request of a federal court it is to act as master in chancery in advising as to the form which decrees of the court relating to industrial combinations should take.

Aims at Prevention Rather Than Punishment.

The dominant note of this measure, it will be seen, is prevention rather than punishment. The chief functions of the Trade Commission are to investigate and advise. Its reports and those it may require from the industrial combinations under its jurisdiction will provide in even fuller measure the publicity which proved the most valuable service of the Bureau of Corporations. It is to co-operate with the attorney-general and the courts in securing and maintaining compliance with the requirements of the law. On its own initiative it is to determine when unfair methods are being used, and order their discontinuance. To make clear that this part of its work is preventive rather than punitive, the injunction is relied upon as the sole means of enforcing orders of the Commission, and it is left to the courts to determine the penalties in cases where its orders are disregarded and the offenders are adjudged guilty of contempt. Finally, the Trade Commission Act is not technically one of the Anti-Trust Acts. It is not, in other words, a penal statute, but a statute designed to secure more equitable business relations through the machinery developed by courts of equity in their effort not to punish offenses, but to prevent offenses from being committed.

§ 257. The Clayton Act—"an act to supplement existing

laws against unlawful restraints and monopolies and for other purposes ''—is, by contrast, a penal measure. Made up, as it is, of material drawn from four or five bills that were at one time under consideration in different committees of Congress, it lacks the simplicity and unity of the Trade Commission Act. Its principal provisions are: The Clayton Act.

(1) Price discriminations in connection with interstate commerce are declared to be unlawful, '' where the effect of such discrimination may be to substantially lessen competition or tend to create a monopoly.'' Provisos permit differences based on grade, quality, or the quantity sold, on the cost of selling or transportation, or when '' made in good faith to meet competition.'' Also the prohibition is declared not to prevent the selection of customers '' in bona fide transactions, and not in restraint of trade.''

(2) Exclusive selling or leasing contracts, whether of patented or unpatented articles, whose effect may be to '' substantially lessen competition or tend to create a monopoly '' are also declared unlawful.

(3) It is declared '' that the labor of a human being is not a commodity or article of commerce '' and that '' nothing contained in the anti-trust laws shall be construed to forbid the existence and operation of labor, agricultural, or horticultural organizations, instituted for the purposes of mutual help, and not having capital stock or conducted for profit [*sic*], or to forbid or restrain individual members of such organizations from lawfully carrying out the legitimate objects thereof; nor shall such organizations, or the members thereof, be held or construed to be illegal combinations or conspiracies in restraint of trade, under the anti-trust laws.''

(4) The acquisition of stock in one corporation by another, or the combination of two or more corporations through stock-ownership, where the effect '' may be substantially to lessen competition . . . to restrain . . . commerce . . . or tend to create a monopoly,'' is prohibited.

(5) Somewhat complicated limitations are imposed on interlocking directorates, designed to prevent the combination of companies by this device which could not combine outright without violating the law.

(6) Violation of the Anti-Trust Acts by a corporation is declared to be violation by the individual directors, officers, or agents who have authorized, ordered, or done the acts constituting such violation, rendering them also liable to the penalties of the Sherman Act.

Results of New Legislation.

It is too early to judge of the extent to which this enumeration of acts which henceforth shall be unlawful, in the Clayton Act, has changed the existing law. It will be observed that in specifying offenses great care has been taken to exclude acts of the same kind which are free from the objection of tending to restrain trade or create monopoly. It thus still rests with the courts, aided by the Trade Commission, to determine when price discriminations, exclusive contracts, interlocking directorates, etc., are in violation of the Anti-Trust Acts. Such acts were already regarded, under certain circumstances, as involving violation of the Sherman Law. The legislation has, therefore, merely enumerated as unlawful certain lines of conduct which even before the act was passed had come to be viewed as possible evidences of a criminal combination. Such enumeration serves at least one useful purpose. It makes clearer the obligation resting on business men to avoid entanglements which may lead them into violations of the law. That they may not disregard this obligation, the expert services of the Trade Commission are at the same time provided. The net results should be fuller compliance with the law and less occasion for prosecutions under it.

There is similar ground for uncertainty as to the importance of the exceptions made in favor of "labor, agricultural, or horticultural organizations." Labor leaders and their legal advisers believe that this legislation goes far to relieve them from the penalties of the Anti-Trust Acts. Employers and their legal advisers point out that there was no legal obstacle to their "lawfully carrying out their legitimate objects" before, and conclude that the law remains unchanged. Only a decision by the Supreme Court can determine what, if any, change has been made in the law at this point.

Further Legislation Advocated.

§ 258. So far as the formal condemnation of industrial combinations and monopolies is concerned, the new legislation

leaves the law as it was before. Already, however, the Trade Commission has begun to study sympathetically situations in which this condemnation is looked upon by business men as involving special hardship. One of these relates to American competition in foreign markets. In such markets American manufacturers find themselves confronted by the monopolistic *cartels* of Germany and other countries. To meet this competition, they feel the need of similar combinations among American manufacturers. As was pointed out in a report of the Merchants' Association of New York in 1916, to push effectively American products in a foreign market, a selling agent should represent all the American firms seeking to develop trade in the particular line in that market; otherwise American competition itself will tend to discredit American products, and American manufacturers will all be worsted by the organized competition of the manufacturers of other countries. Under its authority to investigate foreign trade relations, the Trade Commission held hearings in 1915, designed to make articulate the demand of American business men for the right to co-operate in the development of foreign trade. It found this demand so general that, in its Report for 1916, it recommended to Congress legislation that would expressly authorize such co-operation. Since this recommendation is likely to encounter slight opposition in Congress, legislation along this line may almost be predicted. Should this anticipation be realized, we shall be in the interesting situation of approving combination as a means of advancing our business interests abroad, while condemning it in connection with business at home. It would not seem a long step from such approval to relaxation of the Sherman Act as it applies to business within the United States. Such relaxation, as already pointed out (Section 244), is particularly to be desired in connection with the common carriers, where we have in the Interstate Commerce Commission fully-developed machinery for regulation as a substitute for competition. A relaxation in the case of the common carriers would afford grounds for a demand for a similar modification of national policy with reference to industrial combinations. A few more reports like that posthumously issued by the Bureau of

Corporations on the tobacco industry, indicating that dissolution of the Tobacco Trust has simply served to increase the expense of carrying on the business without lowering prices to the consumer, will cause the public to lend a sympathetic ear to such a demand.

Resale Prices.

Another aspect that will receive the attention of the Trade Commission is the fixing of resale prices by the manufacturers of specialties, which has been held to be in violation of the Anti-Trust Acts. Among business men the opinion is widespread that the cutting of the prices of such products by retailers is a peculiarly obnoxious form of unfair competition. It will be interesting if the Trade Commission comes to take the same view, and prohibits as unfair the *cutting* of prices, the *fixing* of which by manufacturers has been condemned by the courts as a violation of the Anti-Trust Acts.

Importance of Trade Commission.

The very fact that we have in the Trade Commission a body competent to study these questions and to advise Congress with reference to them is the greatest merit of the new legislation. Whatever view be taken of the ultimate solution of the trust problem, all must agree that the new legislation should assist Congress to study it rationally. Heretofore the bugaboo of monopoly has confused the public mind. Responsive to every demagogic arraignment of the trusts, public opinion has coerced our lawmakers into an attitude with reference to trust legislation which has been emotional rather than rational. If the Trade Commission will serve to introduce the "rule of reason" into legislative halls as it has been introduced, somewhat arbitrarily perhaps, into judicial decisions, the United States will at least be on the road to a solution of the trust problem.

§ 259. The legislation of 1914 includes three of the reforms that were advocated in the last edition of this book. It creates a commission to supervise the trusts as the Interstate Commerce Commission supervises the railroads, it prohibits unfair methods of competition, and it expressly penalizes discrimination in prices and exclusive selling and leasing contracts. The next step in a progressive national program would seem to be to require all corporations hereafter organized to engage in interstate business to secure federal

Federal Incorporation Desirable.

charters of incorporation. Existing corporations might be required merely to acquire licenses from the Federal Government. As a condition to obtaining such licenses, they should be required to comply with the same general rules as to periodic reports, relation between nominal and actual capital, etc., as federal corporations. Under these conditions many of them would prefer to substitute for their present state charters, federal charters, and in any event they would be equally under federal supervision. The chief reason for urging federal incorporation as a further remedy for the evils charged against the trusts, is the conviction that many of these evils are directly traceable to defects in our too liberal corporation laws. Only through federal authority can a uniform corporation law, containing adequate safeguards against fraudulent promotion, over-capitalization, betrayal of trust by directors and other officers, etc., be imposed upon all interstate commerce corporate enterprises.

Transfer of Control over Business Enterprise to the Federal Government That Would Result.

The most serious objection to this and other plans of federal regulation is that when it was once entered upon it could not stop until control over business relations, which in the American scheme of government has been vested in the states, had been transferred almost in its entirety to Congress. Such a large proportion of the business of the country is now conducted by corporations * and such a large proportion of the corporations extend their fields of operation beyond the limits of a single state, that the policy considered would enormously increase the powers of Congress at the same time that it reduced to very low terms the powers of the states. Many persons shrink from such a radical departure from

* The magnitude of the task involved in regulating the large industrial corporations of the country is brought out by the returns secured in connection with the federal tax on the net incomes of corporations. For the year ending June 30, 1911, 89,114 industrial and manufacturing corporations paid this tax on net incomes aggregating $1,436,000,000. The capital stock of these corporations was $26,177,000,000, and the bonded and other indebtedness $7,895,000,000. Altogether 270,202 corporations of all kinds paid the tax in that year on net incomes aggregating $3,360,000,000. Their combined capital stock totaled $57,886,000,000, and their aggregate bonded and other indebtedness was $30,715,000,000. The publication of this useful information has been discontinued by the present (1916) Commissioner of Internal Revenue.

inherited traditions in reference to state rights and local self-government. Natural as is this feeling it must, with the growing consciousness of national industrial solidarity, give way to the conviction that businesses which are national in their scope must be regulated, if regulated at all, by national authority. Only in this way, it is believed, can the best interests of the whole people be safeguarded.

Control Through Alterations in the Tariff.

A remedy for excessive prices for certain trust products, which is being tried by the government of Canada and which might advantageously be utilized by the United States, is to vest in the President power to lower the tariff on goods whose production within the country was so controlled as to lead to unreasonably high prices. To the extent that the tariff fosters monopolistic combinations, the most direct method of dealing with them would seem to be this of lowering or removing altogether the tariff wall behind which they have grown up. Of course careful machinery would have to be provided for determining the facts in each case, full opportunity being afforded for the accused combination to defend its price policies. The Trade Commission would seem well equipped to conduct the necessary investigations and report its findings for the guidance of the President. Quite as important is some elasticity in the tariff permitting a checking of any effort on the part of producers in other countries to unload or " dump " their products at unreasonably low prices on the American market. The same reasons that put American manufacturers at a disadvantage in foreign markets, when they encounter the strongly organized cartels of other nationals, may put them at a disadvantage in their own market unless they are given some protection when they encounter, for example, the firmly cartelled chemical industries of Germany. Recognition of the need of protection against " dumping " is, of course, not synonymous with the advocacy of protection in general. The policy to be opposed in connection with dumping is not selling cheap because costs are lower, but selling cheap irrespective of costs, in the expectation of making profits by advancing prices so soon as local competitors have been forced into bankruptcy.

" Dumping."

Many students who believe in regulation rather than pro-

hibition as the remedy for the trust problem view the dismemberment of the Standard Oil and American Tobacco combinations, which was effected in 1911, as a waste of effort or worse. Certainly there has been little evidence as yet of any benefit from these formal dissolutions except to the shareholders of the very corporations which were supposed to be penalized. The dismemberment of the trusts is still going on, but it is significant that few new dissolution suits are being begun and that the trend of recent decisions is distinctly favorable to the combinations already in existence. In the year 1915-16 a circuit court of appeals reversed the decision of the lower court holding the officers of the National Cash Register Company liable to criminal penalties, and the Supreme Court refused to review the decision. The government's suits against the Shoe Machinery trust and the United States Steel Corporation have been decided adversely. Appeals are being taken in both cases to the Supreme Court, but without much confidence, apparently, that the views of the lower courts will not be sustained. On the other hand, the appeal of the International Harvester Company from the decision against it of the lower court is being pressed with more and more confidence that a reversal will be secured from the Supreme Court. Without attempting any consideration of the issues in these cases it seems a fair inference from the argument that runs through the decisions that "the rule of reason" that was laid down in 1911 is being broadened by the lower courts into a rule of economic expediency.

Even the opponents of a policy of prohibition must admit, however, that the very size of corporations like the old Standard Oil and American Tobacco companies makes the task of regulating their operations exceedingly difficult. If the smaller units into which they are forced to divide are permitted to enter into reasonable contracts and agreements for the advancement of their common interests they may be able to effect many of the economies of combination while still retaining their individual existences. From the point of view of the government this would have in addition to the advantage consequent on the greater ease of regulating smaller business units, that of making the combina-

tions less permanent and, therefore, less likely to take a direction seriously opposed to the public interest. It is to be hoped that Congress will soon supplement the prohibition of unreasonable combinations and of monopolies of the Anti-Trust Acts with a carefully drafted federal licensing and incorporation law and that the courts will make clearer the principle that any combination is reasonable which is not clearly inimical to the public interest.

Price Regulation as a Final Remedy.

If all combinations not demonstrably opposed to the public interest were permitted, subject to strict supervision by the Federal Trade Commission and to all the penalties of existing law for unfair or discriminatory practices, it might be found that in some branches of business the economies of combination are so great that single corporations will be able to expand until they drive all competitors from the field. In that event the same policy which has been found necessary toward other natural monopolies of organization would be called for toward such exceptional industrial combinations. The Federal Trade Commission should be given power to regulate the prices to be charged by these monopolies, just as the Interstate Commerce Commission has been given power to regulate the rates charged by the railroads. Prediction as to whether any industrial combinations, or how many, would be found to have the characteristics of natural monopolies of organization, when developing under the limitations as to unfair methods of competition and other unreasonable practices that have been described, would be idle. It may, however, be asserted with confidence that the regulation of the prices that might be charged by such combinations, to make them "fair and reasonable," would be a simpler task than the regulation of railroad rates which has already been imposed upon the Interstate Commerce Commission.

Regulation, Not Prohibition, Desirable.

With the passage of time the widespread alarm which was at first aroused by the organization of the trusts and which led to the anti-trust legislation has somewhat abated. It is now clear that the all-inclusive trust form of organization is adapted to rather a limited number of businesses, and that only in a few cases, even in the absence of legal regulation,

can combination actually succeed in suppressing competition. At the same time, the reasons for the success of those trusts which made the largest profits are now understood, and public opinion is being educated to discriminate between the legitimate and illegitimate practices of the combinations, and to realize that behind the trust movement were, in addition to the activity of unscrupulous promoters and the monopoly hunger of greedy manufacturers which received merited condemnation, more solid and creditable motives. It has been shown that the economies of combination are in many cases both real and substantial and the conviction is growing that a public policy that opposes all forms of combination is as unenlightened as it must in the long run be futile.

Consumers' Power to Protect Themselves.

The most effective single weapon wielded by the public for dealing with the trusts, as with other actual and potential monopolies, is the consumer's power to substitute other goods for those which the trusts enhance in price. As consumption and processes of production become more varied in their range, this power acquires wider scope. It already effectually precludes excessive profits to any very large number of businesses and limits the monopoly problem to those few services and commodities which remain indispensable to civilized existence, such as transportation facilities, coal, iron, petroleum, salt, sugar, etc. As time goes on, invention and discovery should still further narrow the list of such articles and services, and by thus limiting the scope of the monopoly problem make its solution through national regulation or ownership easier.

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CHAPTER XXVI

GOVERNMENT EXPENDITURES AND GOVERNMENT REVENUES

Scope of Discussion.

§ 260. With the exception of money and banking there is no topic in economics to which more attention and literature have been devoted than to that of public finance. In this treatise it is possible to discuss only the more important aspects of the subject, and government expenditures and government revenues from other sources than taxation are considered only so far as is necessary to introduce the question of the Reform of the Tax System of the United States dealt with in Chapter XXVIII.

Government Expenditures Are Designed to Promote the General Welfare.

Diverse as are government expenditures and the functions in connection with which they are made, they have one common characteristic. All are undertaken for the purpose of promoting the general welfare. From the point of view of political theory the relation between public and private activities in self-governing communities is easily explained. Through his private activities each individual secures so far as his means will permit, those commodities and services which are needed to gratify his wants and the wants of those dependent upon him. But certain wants are collective in their nature, and certain services can only be rendered satisfactorily by a central authority acting as the agent or servant of the whole community. The gratification of these wants and the rendering of these services are the tasks of the government. Every one needs to be protected. For this purpose armies and navies are maintained, police and fire departments are organized, courts of justice are provided and penal and reformatory institutions are supported. The well-being of every one requires that educational institutions of high standard shall be freely open, not only to themselves and their own children, but also to their neighbors and their neighbors' children, so that an edu-

cated public opinion may be created as a guarantee that just laws will be passed and efficiently enforced. The concern of every one in the other expenditures of modern democratic governments—that is, for the promotion of the health and efficiency of wage-earners through protective labor laws, and departments of labor and factory inspection to enforce them, for charitable relief for the defective and dependent classes, for the promotion of the nation's material interests, for the provision of roads, bridges, sewers, street lights, etc., and for the maintenance of the different departments of government,—is nearly, if not quite, as clear as that in protection and education. They all have to do with general and public interests and are justified only to the extent that through them these interests are advanced.

Some writers have sought to formulate definite rules by means of which it can be judged in advance whether a given activity should or should not be undertaken by the government. Such rules are helpful when based upon actual experience, but when based, as is usually the case, upon some dogma as to the proper sphere of the state, as that its sole duties are to protect life and property and administer justice, they are almost certain to be misleading. Developing states find it advantageous to assume very different functions at different periods. On the whole as political organization becomes more efficient, there appears to be a tendency for the functions of the state to broaden. Whether this is desirable or not can only be determined by experience of its effects. If in this way the well-being of the whole community is increased, the change is justified. There is no other universally valid criterion by which the rightness of either public or private action can be determined.

Public *v.* Private Expenditures.

§ 261. The dividing line between public and private expenditures corresponds with the division between public and private activities. Each community has a limited supply of commodities and of workmen capable of rendering services. The government should withdraw from private industries so many and only so many workmen as can produce as public servants services and commodities of greater value than those turned over to such servants as their compensation. Through public ex-

penditures a part of the wealth that would otherwise be available for private use is capitalized in public works or paid out in wages or salaries to public servants. Unless the resulting commodities and services are worth more to the community than what has been given for them the public expenditures are unwarranted.

Simple as the matter is when stated in general terms, it presents serious practical difficulties. There is no way of measuring the value to a country of a standing army or of the "biggest navy afloat." Comparisons of the services of such public institutions with their cost lead to very different conclusions when made by the "expansionist" than when made by the "anti-imperialist." Equally difficult is the measuring of the value of the other services of government. That free public schools are worth even more than they cost will be generally admitted, but how shall it be determined how much of the people's money shall be expended on the maintenance of free public universities? The line must be drawn somewhere, but the difficulty of deciding where is illustrated every time an appropriation bill affecting a state-supported university comes up for consideration before one of the state legislatures. These practical difficulties differ, however, only in degree from the difficulties that arise in connection with all expenditure. Parents are often as much puzzled to determine whether a college education will be a "paying investment" for their sons, as are state legislatures to decide whether it will "pay" to invest more of the people's money in the institutions that offer college educations. In the former case individuals, in the latter the people's representatives must consider the alternative uses to which the same sums of money might be put. Unless it is clear that the thing secured is worth more than it costs, the expenditure is unwarranted.

Division of Governmental Functions in the United States.

§ 262. In a federal state like the United States different functions are performed by different branches of the government. National defense, the improvement of rivers and harbors, the promotion of foreign trade and intercourse, and to some extent the administration of justice are functions undertaken by the National Government. To the states are allotted tasks connected with the development and administration of

business law, or justice, the maintenance of penal institutions, the care of many of the defectives and dependents who are incapable of self-support, the development and maintenance of higher educational institutions, and the furthering of certain of the material interests of the community ranging all the way from the construction and operation of canals to the extermination of insects harmful to vegetation. The functions delegated by the state legislatures to local governing bodies, counties, cities, boroughs, towns, school districts, etc., are similar to those assumed by the states themselves but more local in character. Among these the maintenance of the common schools, and of streets, bridges, sewers and ditches, the supplying of water, and the protection of life, health and property are among the most important undertaken by government.

Division of Expenditures.

An approximate idea of the division of governmental functions is afforded by statistics of the expenditures of the different branches of government. In the census year 1890 the total expenditures of the National Government were $630,000,000, which was approximately $10 per capita. In the same year the state of New York expended $13,170,000, or $2.20 per capita of its population, and the city of New York $34,985,000, or approximately $23 per capita of the city's population. In the last census year, 1910, the expenditures of each of the departments of the government, except the first, were larger in proportion to the population. The National Government spent $727,000,000, or $7.90 per capita; the state of New York $57,000,000, or $6.30 per capita; and the city of New York $164,000,000, or $32.90 per capita. From the point of view of expenditure we may conclude that the local governing bodies, or at any rate the cities, are more than three times as important to the average citizen as the National Government, while the National Government itself is more important than the states.

Relative Importance of Public and Private Expenditures in the United States.

§ 263. The above figures are significant also for the light they throw upon the relative importance of governmental and private expenditures in the United States. Making allowance for the fact that the expenditures of New York State and City are somewhat larger in proportion to their populations than those of the other state and local governing bodies we may assume that the annual expenditures of all branches of

the government amount to from $30 to $35 for every man, woman and child in the United States, or to from $150 to $175 for the average family of five persons. We have no certain way of measuring the average family income in the United States exclusive of what is paid to the government in the form of taxation but it is a liberal allowance to assume that it lies somewhere between $700 and $900 a year. If we take the upper figure for governmental expenditures and the lower figure for family income it appears that as much as one-fifth of the total national income is expended each year by the different branches of the government, leaving only the other four-fifths to be spent or accumulated by individuals. Combining the other extremes the governmental expenditures are found to be one-seventh of the total, leaving the other six-sevenths for individual disbursement. Somewhere between these limits of one-fifth and one-seventh of the total national income governmental expenditures very probably lie. When the full significance of this fact is realized, the importance of honest, efficient and intelligent government begins to be appreciated.

Sources of Public Revenue.

§ 264. The revenues expended for public purposes are derived from a variety of sources. Writers on finance have devoted much thought to their classification, but for our purpose it will suffice to distinguish the following: (1) public lands and industries; (2) special assessments; (3) taxes; (4) loans; (5) miscellaneous sources.

Revenue from Public Lands.

The income from public lands and industries depends upon the governmental policy in reference to the public domain and in reference to embarking upon industrial enterprises. In the United States, notwithstanding the vast extent of the public lands, comparatively little net revenue has been derived from these sources. The public land policy has been controlled from an early period by the thought that it is better to sell the lands, even for merely nominal sums, to persons who will settle upon them and bring them under cultivation than to treat them as an important source of revenue. In consequence of this policy the Federal Government now receives an annual average of only six or seven million dollars from this source, while it expends considerably more than this upon the bureaus, whose

function it is to study and report upon the land and natural resources of the country and to care for the national forests. The income of the states from the public lands has been somewhat larger proportionally, but only for Texas,* which entered the Union with a vast public domain, has it ranked as a chief source of revenue.

From Public Industries.

The only important public industries carried on in the United States are the post-office and municipal water systems and both of these are conducted on the principle of charging no more than the service actually costs. In the case of the post-office this has usually resulted in a deficit which must be made good out of the other sources of revenue.

The second and third items, special assessments and taxes, are usually treated together and are the principal sources of revenue of all modern governments. As the remaining sections of this and the following chapter treat of taxes nothing further need be said about them at this point.

Definition of Special Assessments.

A special assessment has been defined as "a payment made once for all to defray the cost of a specific improvement to property undertaken in the public interest, and levied by the government in proportion to the particular benefit accruing to the property-owner." † Such assessments are resorted to very commonly by American municipalities in connection with public improvements like the laying out of streets, the paving of streets, the laying of sidewalks, etc., which normally add to the value of adjoining property. In such cases it seems entirely appropriate that the persons receiving a special and peculiar benefit from the improvement, should contribute in a special and peculiar way toward the expenditure which it involves. Unfortunately the instances are comparatively rare where the special benefits enjoyed as a result of government outlay can be distinguished from the general benefit, and for this reason the field for the application of the special-assessment principle is rather limited.

* This state derived from its public lands $1,317,453 in 1890 and $864,921 in 1895. Its present land policy is illustrated by the fact that on September 1, 1905, it offered for sale 6,000,000 acres at a minimum price of $1 an acre to *bona fide* settlers.

† Seligman, *Essays in Taxation*, p. 304.

Revenues from Loans.

§ 265. Loans constitute an extraordinary rather than an ordinary source of revenue. For governments as for individuals, borrowing in order to meet current expenditures simply puts off the time when the needed revenue must be obtained from some other source. Since to such postponement is added the disadvantage that interest must be paid for the sums borrowed, a resort to loans is only justified under special circumstances.

War Loans.

Writers on Public Finance agree in distinguishing three different cases in which government loans may properly be made. The first and most important is when a government is confronted by a war or some other serious emergency which demands immediate and large outlays. In this case the well-being not only of the present but of future generations may be at stake and a part of the sacrifice which must be made may well be imposed upon those who are to contribute to the government's revenues in future years. Moreover, the money needed must be secured immediately and there is no device through which returns may be obtained at once comparable with that of borrowing. For these reasons part of the revenue required may be derived from the sale of government bonds, or promises to repay at some future date with interest the sums received in the present. In inaugurating a borrowing policy the government must be careful, however, to inaugurate at the same time changes in other parts of the revenue system which will insure the means of paying interest and principal in full as they fall due. Almost if not quite as important as immediate command over money for a government embarked upon a war is unimpaired credit, or future borrowing power. Unless the government's credit is protected it may find itself helpless at the very time when a second loan is needed to carry the war to a successful issue. The device which is now very generally employed to reassure lenders who intrust their savings to the government is that of a sinking fund. Revenues constituting a certain proportion of the outstanding obligations are dedicated each year to the debt service, and in this way a sufficient sum is secured to pay the principal of the debt when it becomes due. Contributions to the sinking fund can only be made, of course, if the ordinary revenues are increased

and this is usually brought about through extraordinary or war taxes.

Industrial Loans.

The second case when government borrowing is warranted is when the money is needed for the development of some productive public industry. If a city proposes to install its own water works, for example, it may very properly borrow money for the purpose and adjust the water rates so that they will provide enough to pay the interest on the debt and to accumulate a sinking fund out of which the principal may be repaid when it falls due. This is the more defensible because the benefits of the expenditure are shared by all who make use of the city's water so long as the system continues to be used.

Deficiency Loans.

The final case in which a resort to a loan may be defended is to make up for a small deficiency in the year's revenues. Careful financiering requires that the government's income should balance as nearly as possible its expenditures. But the income is somewhat irregular and unless the public treasury is to keep on hand a considerable surplus for which it expects to have no use, which is undesirable, it must often occur that the legitimate expenditures run ahead of the revenues. Under these circumstances a government is clearly justified in securing a temporary loan to be repaid the following year, out of the larger revenues resulting from a contemporaneous change in the law controlling other sources of income.

Restrictions on Borrowing Power in the United States.

§ 266. In the United States as in all modern countries the above principles in reference to public loans have frequently been disregarded. It is so easy to obtain money by borrowing and so difficult often to obtain it in any other way that public authorities are under a constant temptation to issue and sell bonds when they ought rather to increase taxes or exercise more economy on the side of expenditures. Experience with the evils of reckless pledging of the public credit has led in most of the states to the imposition of constitutional restrictions on the borrowing power. No such restriction has been imposed upon Congress and on the whole the federal debt—except during the critical period of the Civil War—has been kept within reasonable limits. The restrictions on the states usually take the form of limiting the amount that may be bor-

rowed to a certain proportion of the value of the taxable property within the state. The limitations on municipalities, also contained in many of the state constitutions, are sometimes even more rigid. Thus the constitution of New York State, adopted in 1894, limited the indebtedness which any city within the state might incur to ten per cent of the assessed valuation of its real estate. Exception was made of revenue bonds issued in anticipation of receipts from taxes and of water bonds but the latter had to be counted as a part of the debt when the issue of bonds for any other purpose was contemplated. This provision was justly criticised on the ground that it made no distinction between loans contracted in connection with public industries, the income from which would be ample to repay the loans without imposing any additional burden upon taxpayers, and loans which must ultimately be repaid out of the revenues derived from taxes. For the former class of loans the limitation was much too rigid and since it had the effect of seriously retarding legitimate and much-needed municipal improvements in the cities of the state, it was finally removed as regards productive loans by an amendment to the constitution.

Revenues from Gifts.

§ 267. The sources of public revenue referred to as miscellaneous include such diverse items as gifts, fines and other penalties, and fees. In the United States gifts figure among public receipts chiefly in the form of donations to the "conscience fund" and are neither large nor important.* Few persons seem to realize that in giving to the government they are contributing to the one agency whose primary business it is to advance the general welfare. Contrasted with the lavish gifts to private and denominational schools and universities which are constantly being made by America's rich men, the gifts to the public schools and the state-supported universities are so infrequent as to excite general comment when they occur. The attitude of mind toward the government which this fact reflects is partly inherited from the past, when all persons not in the privileged governing class were as a matter of course opposed to the government, and partly the result of a wide-spread distrust of the officials who control public

* Exception must be made of Mr. Carnegie's libraries.

expenditures. It is to be hoped that as time goes on it may give place to a juster appreciation of the importance of the services which the government renders. Certainly there is no way in which a man of wealth can more greatly benefit the city in which he lives than by supplementing public expenditures for better school facilities and more ample parks and play-grounds, or in general at those points where the public need is greatest and the expenditures least adequate.

Fines and other penalties, such as the confiscation of property unlawfully brought into the country, are unimportant sources of revenue and require no special comment. *By a fee is meant "a payment to defray the cost of each recurring service undertaken by the government primarily in the public interest, but conferring a measurable special advantage on the fee-payer."* * It is distinguished, on the one hand, from the price paid for a commodity supplied by the government, such as a water rate, because the primary motive of the government in rendering the service, issuing marriage licenses for example, is regulation in the public interest, the benefit to the individual paying the fee being secondary. On the other hand, it is distinguished from a tax in that it is a payment for a special benefit enjoyed by the payer, whereas taxes are a return for general benefits. As a rule fees are made only high enough to cover or partly cover the cost of the service rendered. Experience has shown that they ought not to be relied upon to compensate the official who collects them because they are certain to yield either less or more than a fair compensation for the work done and thus to demoralize the public service by rewarding unequally officials of the same grade.

Definition of a Fee.

§ 268. *A tax may be defined as a compulsory contribution to the government to defray expenses incurred for the common benefit without reference to special advantages enjoyed.* The points to be emphasized in this definition are that the payment is compulsory, that the proceeds are to be used for the common benefit and that the justification for the payment is participation in these common benefits rather than any special advantage enjoyed. The last statement is given prominence because it throws light upon the first question that

Definition of a Tax.

* Seligman, *Essays in Taxation*, p. 304.

arises in connection with any system of taxation, that is, as to the principle according to which taxes should be apportioned among the individuals in a community. A little thought shows that the correct principle of apportionment cannot be that of special benefit received from government expenditures. Those who need public assistance most, abandoned children, paupers, the insane, etc., are the very ones who are least able to pay taxes. On the other hand those who are able to pay most seem often in little need of those services which the government renders. Men of means may and often do employ private detectives, watchmen, etc., to look after their persons and property, they do not usually send their children to the public schools and in other ways they make little use of those things which the government supplies gratuitously. Obviously if each paid taxes only in proportion to the special benefits enjoyed, the whole business of government might be brought to a standstill.

Taxes Should Be Paid by Each in Proportion to His Ability.

Opposed to the principle of taxation in proportion to benefits is that of taxation according to ability to pay, or the "faculty" theory. This rests on the broad ground that it is impossible to measure the benefits which individuals owe to the government, because without government civilized society could not exist. From the time a person comes into the world, whether he be rich or poor, his development and success at every stage is conditional upon the presence of the machinery for preserving order, protecting life and property, and administering justice. All that can be said of these benefits is that their importance for every one is inestimable, and that the only test of what should be given in return for them is the ability of the giver. The true relation between the government and the taxpayer is thus like that between the member and his church. Each should contribute according to his means and recognize that the return in the services rendered by the government much more than compensates for any contribution, no matter how large.

The "Equal Sacrifice" Theory.

To give greater precision to the principle of ability or faculty it has been suggested that the test to be applied is that of "equal sacrifice," that is, that the contributions to the state should impose equal sacrifices upon all of those who

contribute. This test would be quite valid if it could be accurately applied, but in practice in the apportionment of taxes it is possible to attain only approximate justice, and for this purpose the ability or faculty test is sufficiently exact.

Principal Taxes Imposed in the United States.

§ 269. The principal taxes imposed in the United States may be classified as follows: Taxes on income, including inheritance taxes; taxes on property; and taxes on business, including excise taxes and customs duties. The Federal Government derives more than nine-tenths of its net revenue from internal revenue or excise taxes, and tariff or customs duties. These are described as taxes on business because they apply to commodities usually before they have come into the possession of consumers and consequently affect business relations. The revenues of the states come for the most part from the general property tax and from corporation, license and inheritance taxes. The last are characterized as taxes on income because from one point of view inheritances are income and may be so described for purposes of taxation. Finally, the local governing bodies depend for their revenues mainly upon the general property tax, which may be supplemented by local license taxes.

Tax Provisions of the Federal Constitution.

Among the influences which have given its present form to the system of taxation in operation in the United States are certain provisions inserted in the Federal Constitution when the country was still in its infancy and altered only by judicial interpretation since. Of these the most important are:

(1) The requirement that "all duties, imposts and excises shall be uniform throughout the United States."

(2) The provision that "no capitation or other direct tax shall be laid [by Congress] unless in proportion to the census" of population.

(3) The provision that "no tax or duty shall be laid [by Congress] on articles exported from any state."

(4) The provision that "no state shall, without the consent of the Congress, lay any impost or duties on imports or exports, except what may be absolutely necessary for executing its inspection laws."

The principal effects of these provisions have been to make the courts very strict in their insistence on the rule that taxes must be " uniform "; to give to the Federal Government exclusive use of import duties as a source of revenue; to prevent any hampering of the country's export business through taxation; and to nullify the income tax imposed in 1894 and cause the adoption, after a long struggle, of the amendment to the federal constitution expressly giving Congress the power to tax incomes in February, 1913. Although in the last instance the government was seriously embarrassed by the constitutional restriction, writers on Public Finance generally approve these provisions as having behind them sound reasons of public policy. Certainly the freedom of exports and immunity from state interference with imports guaranteed by the constitution have been of the greatest value to the country's foreign trade.

The Shifting and Incidence of Taxes.

§ 270. To form an opinion whether the various taxes enumerated above obey the principle " taxation according to ability," it is necessary to consider in connection with each the questions: by whom is the tax paid and how does it affect the general distribution of income in the community, upon which ability to pay depends. The first of these questions is that of " shifting and incidence " and the second merely a special phase of the general problem of distribution.

It is a fact familiar to every one that taxes are often shifted by those who pay them to others so that ultimate payment may be made by persons ignorant of the taxes' very existence. This shifting is often very complicated and our treatment of it must be illustrative rather than exhaustive.

The Incidence of Customs and Excise Taxes.

Customs duties and excise taxes are imposed on commodities usually in the hands of dealers. After they have been in force for sufficient time to permit the community to become adjusted to them they come usually to be looked upon as additions to the expenses of producing and selling the commodities affected. Like other items in the expense of production they will have to be covered in the long run in the prices for which the goods are sold, or, in other words, they will normally be shifted from the seller to the buyer and ultimately to the

consumer. This does not necessarily mean that the price after the tax is imposed will be higher than the earlier price by the exact amount of the tax. As the price rises purchases will decrease and in the readjustment of the supply which becomes necessary other items in the expense of production may be altered. Or the commodity may be the product of a monopoly, which can well afford to bear a part of the tax itself and which is already charging the public as high a price as is prudent. Thus as the result of the tax the price may remain unchanged or be advanced only enough to cover a part of the tax, to exactly cover the tax, or by an amount even greater than the tax. Confronted by these different possibilities, the economist finds it difficult to lay down any rule as to the justice of customs and excise taxes. Where they are shifted in part to consumers they involve acceptance of expenditure for the commodities concerned as the test of ability to pay taxes. It needs no extended argument to prove that this is an unfair test. The expenditures of the poor for sugar, woolen goods, tobacco, malt and spirituous liquors,* and many of the other things that are taxed in the United States are very much larger in proportion to their incomes than the expenditures of the rich. In so far as taxes of this sort are shifted to consumers, they impose a disproportionate burden upon the poorer classes.

Property and Poll Taxes.

§ 271. The general property tax is an institution peculiar to the United States, which owed its existence largely to the conditions found in a primitive agricultural community. When the American states began imposing taxes they accepted two principles for their guidance, first, that every head of the family should contribute something toward the support of the government and, second, that the amount of a man's property was the fairest index of his ability to pay taxes. In harmony with these views they imposed poll and general property taxes. Because of their inconvenience and of the small returns to be derived from them poll taxes have now been

* During the five years, 1907 to 1911, 46.8 per cent of the total ordinary receipts of the Federal Government from all sources were derived from the customs and internal revenue duties on malt and spirituous liquors and on tobacco.

given up by most of the states, but the general property tax is almost universally retained.

Evasion of the Personal Property Tax.

The question of the incidence of the general property tax is complicated by the fact that in practice a large amount of property escapes assessment. The law usually distinguishes between real estate and personal property. Real estate, which includes with the land all buildings that may have been erected upon it, is easily assessed and since it cannot be removed may easily be seized as security that the tax will be paid. Personal property, on the other hand, which includes not only such things as furniture, vehicles, wearing apparel, tools, implements, etc., but also such things as money, notes, mortgages, stocks, bonds, etc., cannot, by any means that have yet been devised, be accurately assessed and, consequently, escapes in large measure its share of taxation. It would take too long to describe the different ways in which the owner of personal property, such as shares of stock or bonds in a foreign corporation, may evade the tax assessor. Deliberate concealment of the securities subject to the tax is usually easy. To make this more certain the securities may be issued in the name of some other person. Fictitious debts may be created and declared to offset fully the securities owned. In these and many other ways all who wish to escape taxation on their personal property can do so with little risk of detection.

Evidence of Such Evasion.

§ 272. The results that follow from this easy evasion of the personal property tax have become notorious. In those very states where it is well known that personal property is increasing most rapidly the amount that is taxed actually diminishes. Thus in California between 1872 and 1887 while the assessed value of real estate increased from 417 to 791 million dollars, the assessed value of personal property decreased from 220 to 164 millions. By 1893, although the value of real estate had continued to increase until it was over 1000 million dollars, the value of personalty had increased to only 173 millions. In New York the assessed value of real estate has increased steadily and continuously since it first passed the $1,000,000,000 mark in 1853. In that year the assessed value of personal property was $250,000,000, so that it bore one-fifth of the tax. By 1875 the value of real

estate exceeded $2,000,000,000 but the value of personalty had increased to only $358,000,000, so that it bore about one-seventh of the tax burden in that year. The $3,000,000,000 mark for the value of real estate was passed in 1886, but in that year the value of personalty was only $336,000,000, or actually less than it had been eleven years before. It thus bore only a little more than one-tenth of the tax. The tendency for the assessed value of real estate to advance and for that of personalty to lag behind has continued since until at present in the richest state in the Union, whose wealth consists very largely of corporate securities, personal property represents less than ten per cent and real estate more than ninety per cent of the property assessed for the general property tax. So conspicuously does the personal property tax fail to reach the property of those who are unwilling to pay that it has been justly described as "debauching to the conscience and subversive of the public morals—a school for perjury, promoted by law." It falls only on those who are too scrupulous to evade it, and, as its unfairness becomes more widely recognized, the number who are willing to carry burdens which their neighbors callously throw off becomes smaller and smaller.

Incidence of a Perfect General Property Tax.

§ 273. In those communities, if any such remain, in which personal, as well as real, property is assessed at its full value, the general property tax falls upon all in proportion to their means and thus satisfies fairly well the canon that taxation should be in proportion to ability. It does not do so completely because obviously it fails to reach the income derived from personal exertion. Salaries, profits, professional earnings all escape and in some cases those who receive their incomes in these forms have no property to speak of and, consequently, contribute nothing to the government. Thus the general property tax even when perfectly administered would need to be supplemented with a tax upon incomes from personal exertion to satisfy completely the requirements of justice.

Analysis of a General Property Tax.

But, as has just been shown, in practice, especially in the more highly developed sections of the country, personal property very largely escapes the tax. The general property tax becomes in consequence a tax on real estate, upon certain kinds

of personal property, and upon the conscientious owners of all kinds of personal property. To determine who pays this tax we must go even a step farther and describe it as a tax on land, on buildings, on certain sorts of personal property, and on certain sorts of personal property owners.

Tax on Land Paid by Landowner.

The real estate tax must be subdivided into the land tax and the building tax because the economic effects of these two taxes, even though assessed at the same rate and as one tax, are very different. The part of the tax that falls on land is paid by the landowner whether he occupies the land himself or leases it to another. To understand why this must be the case it is necessary to recall how the rent and value of pieces of land are determined.* The land supply of the country, determined broadly speaking by natural conditions, is divided up into different grades and each piece of land commands a rent depending upon the demand for land of that grade and the supply of such land and other land that might, if it were economically desirable, be devoted to the same economic use. Once determined by the competition and bargaining of landowners and land-users this rent will be changed only if some cause changes either the demand for, or the supply of, such land. Moreover the value of the land is this rent capitalized at the current rate of interest. There is no means by which the landowner can shift a tax on land proportioned to its rent or selling value to the lessor or user, because the latter is already presumably paying the full economic rent for it. If asked to pay more he or some one in the group using the same grade of land will use instead land of somewhat inferior grade. The users of this land in turn if asked to bear a part of the tax will move to the land of still lower grade. Thus the attempt to shift the tax, there having been no increase in the demand for land—and there is nothing in the imposition of a tax to cause such an increase—is opposed by a moving away of lessors who are already paying all they are willing to pay. This resistance will continue until some have withdrawn entirely from the area over which the tax extends, with the result that land which was formerly

Cf. Chapter XIV.

occupied will be untenanted. The only way in which the landowners can recall the old tenants or attract new ones is by offering the land at the old rental, that is, abandoning the attempt to shift the tax to other shoulders.

Circumstances Obscuring This Fact.

This result is often concealed in consequence of the fact that the community in which the tax is imposed is growing and rents are advancing because the demand for land is increasing. If the land tax is small, the rise in rent—which would have occurred in any case—may reimburse landlords for the tax and give them the impression that they are shifting it to their tenants. What they are really doing, however, is paying it themselves by foregoing the larger increase in the income they derive from their land, which would have been theirs had no land tax been imposed. The conclusion to which we are brought, therefore, is that a land tax must be paid by landowners because it tends neither to increase the demand for land nor to reduce the supply, and it is only by increasing the demand or reducing the supply that the tenants generally can be forced to pay higher rents.

Capitalization of Land Taxes.

§ 274. The land tax has another peculiarity. Since the value of a piece of land is its rent capitalized at the current rate of interest, the imposition of a tax that is to be collected year after year reduces the value of the land by an amount equal to the tax capitalized at the current rate of interest. Generally speaking, land is looked upon as an investment and will command that price that makes its return equal to that to be obtained from other investments as indicated by the current rate of interest. If the government imposes an annual tax and thereby takes from the landowner a part of his return it reduces the value of the land as an investment correspondingly. As an investment the land is now worth the gross rent less the annual tax capitalized at the current rate of interest.

An Example.

A numerical illustration may serve to make this clearer. Suppose that a piece of land affords a gross rent of $6000 a year, that the government imposes a tax that takes $1000 each year, and that the current rate of interest is five per cent. Under these conditions the value of the land for investment purposes will be $100,000 or the sum which, if invested at the

current rate of interest, would bring in $5000, the net return from the land. If the tax is proportioned to the value of the land it will be at the rate of one per cent. Suppose now the government increases the land tax so as to take $1200 from the landowner while the rate of interest remains at five per cent. Under these new conditions the net return from the land is only $4800 and its value only $96,000. The tax rate is now one and one-quarter per cent. The increase in the tax rate by one quarter of one per cent not only lowers the annual return to the owner by the amount taken by the tax (that is, $200) but what is more serious it lowers the value of his property by $4000. He must not only pay the tax so long as he continues to own the land but when he sells it he must submit to a reduction in the price which causes him to pay the tax for all time. The purchaser, on the other hand, who acquires the land with full knowledge that the tax must be paid each year suffers no deduction from his income in consequence of the tax. Because of the tax he obtains the land for $96,000 or the sum which would yield the $4800 he is to receive from it each year if invested at the current rate of interest. If the tax had remained at the old rate he would have had to pay $100,000 for it. Had there been no tax at all it would have been worth $120,000 as the return would then have been the full rent, or $6000. Thus a new land tax is a burden on the landowner upon whose land it is imposed not only while he continues to be owner but even when he attempts to escape it by selling his land. It amounts to a compulsory reduction in the investment value of his property.

An Old Land Tax Becomes Burdenless.

§ 275. With these peculiarities in mind what are we to say of a tax on land from the point of view of the principle that taxation should be in proportion to ability? The first conclusion to be drawn is that no tax is less open to objection than an old land tax. The proceeds of such a tax are drawn from the rent earned by the land. After the tax has been in force for a number of years and the land has changed hands at least once at the new valuation caused by the tax, it ceases to impose any burden whatever upon present landowners. The part of the rent which it diverts to the use of the govern-

ment is a part which they never expected to control themselves. The remainder affords them as large a return as they could have obtained from any other form of investment, and they are entirely satisfied with the arrangement. It is for these reasons that real estate owners pay their taxes with so little grumbling. Nothing would surprise them more than to have their tax rate lowered—the basis of assessment remaining the same—and no policy would be so unfair to other taxpayers, since it would amount to adding gratuitously to the value of land for investment purposes.

A New Land Tax May Involve Confiscation of Property.

A new or a higher land tax is a very different matter. If the population is growing and rents are going up the tax may be raised gradually without unduly burdening landowners. Under such circumstances the higher tax merely acquires for the government the increase in the rent leaving the landowner's return on his investment undisturbed. If the increase in rent has not been anticipated by the landowner in the price he paid for the land and has followed general changes in which he has had little or no part its appropriation seems entirely fair. But exactly adjusting a rising tax rate to rising land rents is a matter of much delicacy. What is very likely to happen, if the land tax is raised, is that it will cut into the income formerly enjoyed by the landlord and cause his land to depreciate in value. Such a policy clearly discriminates against landowners in comparison with owners of other sorts of property. Unless it is combined with other taxes in such a way that landowners are not singled out for exceptional taxation, it violates the principle that taxation should be in proportion to ability.

Taxes on Buildings Paid by Occupiers.

§ 276. The effect of a tax on buildings is different from that of a tax on land simply because the supply of buildings may and in course of time will be controlled by investors in buildings with a view to escaping the tax. When a real estate tax is first imposed owners of buildings will have to bear their proportion of it as do owners of land. It will not cause any increase in the demand for buildings, nor immediately any decrease in the supply. But, unlike land, buildings wear out, are destroyed by fire, or for some other reason become unfit for use. In a progressive community there is added to the

need of replacing old buildings a demand for new buildings to accommodate the growing population. If owners of buildings have to pay the tax on them—even when they own them as investments—the erection of new buildings will be unprofitable until the lessened supply coupled with the constant or increasing demand causes building rents to rise so as to fully cover the tax. Only after this has occurred will the erection of buildings again become profitable, because the tax has been shifted from the building owner to the occupier. Thus the part of the real estate tax which falls upon buildings tends to discourage building operations until building rents have risen to reimburse the owner for the full amount of the tax. Such taxes are paid, as soon as the community is fully adjusted to them, by occupiers or lessors rather than by owners. The question whether this part of the real estate tax satisfies our canon of fairness, thus reduces to the question whether the sort of a house or place of business a person occupies is a fair index to his ability to contribute to the support of the government. Generally speaking the acceptance of this basis imposes disproportionally heavy burdens on the poorer classes in the same way, but not to the same extent, as do other taxes falling upon consumers.

Tax on Mortgages Paid by Borrowers.

§ 277. Similar in effect to the tax on buildings is the tax on any special form of personal property that cannot be evaded, like the tax on mortgages in some of the states. At first such a tax makes investments in mortgages unprofitable as compared with untaxed investments. The balance is only restored when the interest on mortgages is raised by the full amount of the tax and the burden is shifted to borrowers. It needs no extended argument to prove that a tax upon borrowers in proportion to the extent of their indebtedness has little relation to the principle that taxation should be in proportion to ability.

Even more obvious is the injustice of what remains of the general property tax, that is, the tax on highly scrupulous personal property owners, who obey the law strictly, while their friends and neighbors take advantage of the many easy means of evasion. This portion of the tax violates every principle of fairness and reasonableness and brings the whole

general property tax, of which it is a part, into merited disrepute.

Injustice of a Partial Tax on Personal Property.

To sum up our conclusions in reference to the general property tax. That part which falls upon land, if the tax has been long in operation, is paid out of rent and is virtually burdenless to present landowners; when the tax is first imposed, on the other hand, unless it is exactly adjusted to gradually rising rents, this part imposes a special burden on landowners which is only fair if other individuals are similarly burdened at the same time. That part which falls upon buildings or any other special form of investment, while other forms of investment are permitted to escape, falls upon the occupier or borrower as distinguished from the owner or lender. Finally that part which penalizes honesty, unlike the rain, falls upon the just, but not upon the unjust.

Corporation Taxes.

§ 278. Corporation taxes, the next important source of state revenue, are of various kinds. We may distinguish incorporation or license taxes, franchise taxes, taxes on capital stock and bonded debt, gross receipts taxes, net incomes taxes and special franchise taxes.

The Incorporation Tax.

The incorporation or license tax is the tax paid for the privilege of incorporation. In most of the states it is merely a fee, but in a few like New Jersey whose corporation laws have been so drawn as to attract organizers of corporations from other states, it is an important source of revenue. It is borne by the corporation which pays it and is universally approved as fair and reasonable.

Franchise Taxes.

The franchise tax is a tax on a corporation as a going concern. As distinguished from the incorporation tax it is a payment for the right to *do* rather than merely to *be*. In order to assess the franchise it is necessary to adopt some criterion of its value and consequently this tax merges into the more specific methods of taxing corporations next to be described. The legal conception of a franchise tax has been of the greatest importance in the United States because under it the courts have sustained a number of different ways of taxing corporations which would hardly have been approved if looked upon merely as ways of taxing property or income.

Inability to reach the stock and bonds of corporations in

The Capital Stock Tax. the hands of their owners through the general property tax has caused the states in which corporate enterprises are most highly developed to seek for other methods of attaining the same end. The plan most commonly adopted is to tax the corporations themselves, while exempting their securities in the hands of owners. The first step in this direction is usually the capital stock tax. It is a tax on the actual value of the capital of a corporation, determined by a board of state assessors, deduction being allowed usually for real estate, which is assessed and taxed locally, and sometimes for bonded and other indebtedness, which in such cases usually escapes taxation altogether. In its most highly developed and most defensible form, it is a tax on the capital stock, whose value is determined by the prices at which its shares are selling, *and* the bonded indebtedness. The aggregate value of the stock and bonds of a corporation represents its worth as a going concern from the point of view of the business community and constitute, therefore, the fairest basis for measuring its ability to contribute to the government, so long as property is accepted as the test of such ability. On this point there has been a good deal of confusion in the decisions of the courts. Misled by the analogy of private indebtedness judges have sometimes held that the bonds as indications of debt should be subtracted from the value of the stock to determine the value of the corporation, just as the debts of an individual are properly deducted from his assets to determine what he is worth. But the bondholders of a corporation are really part owners in the corporation. In fact, it not infrequently happens that their bonds represent the whole value of the corporation, the stock having merely a nominal value. The stockholders' interest in turn is an interest in what is left after the claim of the bondholders has been satisfied. Thus the correct criterion of the taxable ability of a corporation is not stock *less* bonds but stock *and* bonds.

Advantages of This Tax. A tax on the capital stock and bonded indebtedness of corporations, exemption of these forms of personal property in the hands of owners being, of course, allowed, goes far toward correcting one of the most glaring abuses of the general property tax. Such a tax, if applying to all corporations, serves,

no doubt, to lessen the attractiveness of the corporate form of organization to investors and to lead them to prefer at times the partnership or individual enterpriser forms, under which evasion of the property tax is comparatively easy. This, however, is a small matter in comparison with the advantages of such taxation. It falls equally upon all of those who avail themselves of the privilege of incorporation and it prevents that privilege from being too lightly embraced. It brings in large revenues to the state treasuries and enables them to dispense with other and less defensible taxes. Finally, it is a step away from the outgrown general property tax in the direction of dependence upon special privilege taxes that can be easily and fairly assessed and collected.

Gross Receipts Taxes.

§ 279. Gross receipts taxes are another form of corporate taxation that has come into being in consequence of the feeling that these organizations escape their fair share of the tax burden. They have been applied in different states to insurance companies, express and railway companies and street railway companies. The principal justification for them is the comparative ease with which they may be assessed and collected and the large revenues which they may be made to yield. From the point of view of fairness in apportioning tax burdens not much is to be urged in their favor. The test of ability to pay taxes is not gross receipts but net income. Of the former one company may be required to spend nine-tenths upon expenses of operation while another company spends only three-fourths. It is what is left in both cases that measures tax paying ability, not the gross returns. This objection has less force when applied to businesses like that of insurance, in which the relation between gross receipts and net income is fairly constant. When limited to businesses of this sort and made to apply at a rate determined by the ascertained relation between gross receipts and net income in typical instances, the administrative advantages of the tax probably justify its existence.

Net Income Taxes.

§ 280. The reasons for the adoption of the gross receipts tax become evident from a study of the history of the next form of corporate tax, that on net income. This tax has also been applied to insurance and transportation companies by

different states. It assumes a variety of forms sometimes applying to the whole net income, sometimes only to that part distributed as dividends above a certain rate per cent. A tax on the net income or earnings of corporations would seem at first thought an ideal method of compelling them to contribute to the government in proportion to their ability. It is out of the net income that interest and dividends are paid to investors and it is these that measure tax paying faculty. The difficulty is that in practice it is found impossible to prevent corporations from concealing their true net earnings when the tax system offers them a strong inducement to do so. They may do this by charging off each year outlays for enlargement and betterment of plant, which really represent new investments, by paying higher salaries, etc., than market conditions require, or by deliberate fraud in making their reports to tax assessors. Unless coupled with a more rigid supervision of methods of accounting than has yet been adopted in the United States, except for interstate railroads and public service corporations in a few states, the net income tax, though so fair on its face, is really a highly unsatisfactory source of revenue. It is distinctly inferior as a means of gaging tax paying ability to the combined capital-stock and bonded-debt test.

Special Franchise Taxes.

§ 281. The special franchise tax is a tax upon those corporations which enjoy peculiar privileges in connection with the use of the streets or other public property. As developed in New York State it subjects such special franchises to taxation as real estate and is thus a part, though a peculiar part, of the general property tax. The history of this tax is interesting. As is well known few corporations have proved so successful as those described as public service corporations, that is, gas, electric lighting, street railway, telephone and analogous companies. Under the old law these corporations were subject to the general property tax like individuals, that is, to a tax on their real estate and tangible personalty. When the attempt was made, however, to tax them also on their franchise privileges, which had become enormously valuable, on the ground that these also were a form of personal property, the courts held that they were not personal

property for purposes of taxation. In this dilemma the legislature of New York State passed in 1899 the so-called Ford Special Franchise Tax law, which declared special franchises real estate and directed the state board of tax assessors to assess them as such. After a long legal contest the act was sustained not only by the courts of the state of New York, but by the United States Supreme Court. As the propriety of taxing these special privileges as they become valuable along with other property is generally conceded, New York's plan is very likely to be followed by other states. This lends more than local interest to the question of the effect of such taxes.

Their Resemblance to Land Taxes.

Like the tax on land a tax on the value of a special and exclusive franchise must be paid by the owner of the franchise. The imposition of the tax alters in no respect the terms on which he renders his service to the community nor the price which he receives for that service, and, consequently, it cannot be shifted. Moreover, like the tax on land the special franchise tax is capitalized at the current rate of interest and deducted from the value of the franchise as an investment. Thus the whole burden resulting from making special franchises subject for the first time to taxation at the rate applying to other property falls upon the investors interested in special franchise corporations at the time the tax goes into force. After the value of the securities of such companies is readjusted to the new conditions they pass to new owners at prices that make full allowance for the tax and, consequently, the tax is not felt by such new owners as a burden. We thus have here another instance of a tax that becomes virtually burdenless as it becomes old.

In other states than New York special franchises may be taxed as personal property, if the courts approve, or under franchise taxes applying expressly and exclusively to them. But, however they may be designated, the same reasoning applies to them as to taxes on land. When first levied they are capitalized and impose a serious burden on the franchise owners. As time goes on and new owners acquire the franchises they become burdenless, so far as investors are concerned.

Liquor License Taxes.

§ 282. License taxes have received their highest development in the United States in connection with efforts to control the liquor traffic. Beginning as moderate charges for the privilege of engaging in the liquor business they have grown until now under the high license system in force in the larger cities they require the annual payment of $1,000 or more for the privilege of maintaining a saloon, and of proportionate amounts for that of engaging in other branches of the liquor business. Space will not permit an exhaustive consideration of the effect of high license taxes but a few of their advantages may be emphasized. They are easily assessed and collected and they have proved a source of large revenue. They compel concentration of the business affected into fewer establishments and this makes supervision easier and more efficient. The economies resulting from this concentration are so great that it may be doubted whether they lessen greatly the profit of those obtaining licenses on the one hand or add appreciably to the prices charged for the commodities sold under the license system on the other. Retail trade, whether in liquors, or in drugs, milk, ice, groceries, provisions, or even merchandise, is strikingly wasteful when exposed to the effects of an unregulated competition. The needless multiplication of stocks and selling places, the reckless entry into the field of men with little capital and less experience due to the feeling that "any one can keep a store" and the losses which result owing to the fact that only competent persons can make storekeeping pay, the costly duplication of distributing machinery—all these aspects of retail trade supply telling arguments against a competitive organization of industry. The high license system, although not primarily intended for that purpose, substitutes regulated for unregulated competition. It is believed to be within the truth to claim that more than half of the revenue that the government derives from license taxes is wealth that without the moderate regulation the system imposes would have been wasted in a vain competition. The incidence of the remainder of the tax is similar to that of excise or customs taxes. In the case of liquor licenses a part of it is probably borne by the holder of the license and part of it by the consuming public in the slightly higher prices

they are required to pay for the same quantity and quality of liquor.

Inheritance Taxes.

§ 283. Inheritance taxes are becoming a very common source of revenue in the United States as they have long been in Europe. The question who pays them can be answered with ease and certainty, as they present no possibility of shifting. They must lessen the inheritance and in this way fall upon the heir. Their payment, unless they are excessive, will not usually, however, be looked upon as a burden. Those who inherit property usually need the protection of the government against the pretensions of other claimants. Their thoughts are naturally fixed on the share of the inheritance that is to come to them, and if the inheritance tax is an established institution they are apt to accept it as a fair means of compensating the state for its part in securing to them whatever may be left. Inheritance taxes thus combine in unusual degree the characteristics of a good form of taxation: they may be easily and fairly assessed and collected; they cannot be shifted and consequently have no tendency to interfere with business relations; they impose little or no felt burden upon those out of whose inheritances they are paid. The principal difficulty that arises in connection with their use is to decide at what rate they should be imposed. On this point, as is explained in the next chapter, the practices of different countries vary widely.

REFERENCES FOR COLLATERAL READING

**Adams,* Science of Finance; **Seligman,* Essays in Taxation, The Shifting and Incidence of Taxation and Progressive Taxation; *Bastable,* Public Finance; *Daniels,* Elements of Finance; *Plehn,* Introduction to Public Finance.

CHAPTER XXVII

PRESENT TAX SYSTEM OF THE UNITED STATES

Practical Aspects of Taxation.

§ 284. Before attempting to discuss the effect upon the distribution of wealth of the various taxes considered in the last chapter and to formulate suggestions for the reform of the taxing system of the United States, it will be well to review very briefly some of the practical aspects of the more important taxes now in operation.

The Tariff System of the United States.

The tariff system of the United States has already been discussed at some length.* In its present form it may be fairly characterized as a plan by which the machinery of taxation is employed for industrial rather than for fiscal purposes. From the point of view of public revenue it is open to criticism because the burden which it imposes upon taxpayers is out of all proportion to the income which it affords the government. This results from the fact that the principal, and, of course, deliberately intended, effect of the tariff is to force consumers to buy, not foreign goods subject to the duties, but domestic products enhanced in price because of the duties. This, it need hardly be said, is no conclusive argument against the tariff, but it makes its discussion merely as a plan of taxation entirely profitless.

Customs and Internal Revenue Duties Compared.

From the point of view of revenue, customs duties were, prior to the imposition of the corporation income tax in 1911 and the individual income tax in 1913, somewhat more productive than internal revenue duties. Thus, during the ten years 1902 to 1911, customs duties yielded on an average $292,900,000 a year as compared with $259,900,000 from internal revenue taxes. The addition of the individual income tax and the lowering of the rates of duty on imports by the Underwood Act of 1913 quite changed this relation. In 1915, the United States received only $209,786,672 from customs

* Chapter XXII.

duties and $415,669,646, or nearly twice as much, from internal revenue taxes. To this large sum the corporation and individual income taxes contributed $80,201,759 in about equal shares. The doubling of the rate of tax on incomes made in 1916 will cause the income tax to become one of the most important single sources of Federal revenue.

The Present Internal Revenue System.

§ 285. The internal revenue system of the United States is one of the most valuable fruits of the extraordinary financial expedients made necessary by the country's wars. Its proved efficiency and economy as a means of raising revenue assure it a permanent place in the taxing system of the country and also throw upon it the burden of providing additional revenue to meet emergencies such as that presented by the recent Spanish-American war. Under the law in force July 1, 1915, the principal commodities subject to internal revenue duties were: Distilled spirits, manufactured tobacco, fermented liquors, oleomargarine, adulterated butter, filled cheese, mixed flour, white phosphorus matches and playing cards. From the first three commodities, $295,000,000 out of the total of $297,000,000 collected from commodities taxed in 1915 were obtained. The oleomargarine tax yielded in that year $1,000,000. Additional sources of revenue were stamp taxes, yielding $23,000,000, and special taxes, yielding $14,000,000.

The remarkable productiveness of the taxes on liquors and tobacco demonstrates the ease with which all the revenue that the country requires from customs duties might be obtained from taxes on these same commodities and on the few important articles that are not produced in the United States in appreciable quantities, such as coffee and tea, should the decision be reached to substitute a tariff for revenue only for the present protective tariff.

Stamps as Means of Collection.

One reason for the success of the internal revenue system is the very simple stamp device by means of which the taxes are collected. This was introduced by the act of July 20, 1868, which required revenue stamps to be purchased from the government and to be attached to commodities subject to the tax in such a way that they must be broken when the package or barrel was opened. By this means every citizen is put in a position to know whether the articles that come

under his notice have satisfied the requirements of the law and to act as an efficient assistant to the tax collector.

The Income Tax. Growing dissatisfaction with a revenue system depending so exclusively on taxes on articles of consumption led in 1909 to the imposition of a federal tax of one per cent a year on the net incomes of corporations and to the submission to the people of an income tax amendment to the Federal Constitution, which was finally ratified by the necessary three-fourths of the states in February, 1913. In the same year Congress imposed a Federal income tax applying to individual as well as corporate incomes as part of the Underwood Tariff Act.

The General Property Tax. § 286. As already stated the general property tax is the chief source of state and local revenues in most of the states. There is, however, a marked tendency in such states as New York, Massachusetts, Pennsylvania and New Jersey to relinquish this source of income to the local governing bodies, the states depending for their revenues upon corporation, inheritance and license taxes. One reason for this change has already been touched upon. With the great increase of corporate wealth and corporate securities which so readily evade taxation in the hands of holders, public opinion has demanded the introduction of taxes applying directly to corporations. As these have been developed they have proved so productive as sources of revenue that the more highly organized industrial states have been able to forego the income formerly derived from the general property tax.

Unequal Assessments. Another reason has been the fact that the general property tax has proved even more unfair as a source of state than as a source of local revenue. The assessment of this tax calls for intimate knowledge of local conditions and has, consequently, been intrusted to local assessors. When the decisions of these assessors have determined the proportion of state taxes paid by the locality, they have been under a strong temptation to undervalue property in their districts so that the tax bills of their friends and neighbors might be lower. Wide discrepancies have thus appeared between the actual and the assessed value of property. According to a careful report prepared by the Pennsylvania Tax Conference referring to the years 1891 and 1892 the assessed value of real estate in the different

counties of that state varied all the way from only 20 per cent (Lucerne County) to 93 per cent (Northumberland) of the market value as indicated by actual sales. This is fairly typical of the situation produced in all of the states by the policy of depending upon local assessors to assess property for purposes of state taxation. To lessen the great injustice that would result from unequal assessments most of the states have created state boards of equalization whose task it is to make the assessments uniform. Notwithstanding the usually efficient work of these boards inequalities have persisted and the abandonment of the general property tax for state purposes has proved the simplest way to correct the evil.

Abandonment of General Property Tax for State Revenue.

In New Jersey and Pennsylvania the states have desisted altogether from taxing real estate for state purposes and in Pennsylvania the larger part of the proceeds of the personal property tax still collected is returned to the counties and cities which collect it. In New York the constitution requires the imposition by the state of the general property tax, to provide a sinking fund for the canal bonds outstanding. The rate, however, has been reduced to the lowest point permitted by this constitutional restriction, so the tax has ceased to be of any special consequence to the state government.

Disadvantages of General Property Tax.

§ 287. Although the general property tax is thus losing its importance as a source of state revenue, its position as the mainstay and dependence of local governing bodies is unshaken. In view of the larger revenues needed by local governments and especially by the cities, this makes the inequalities inherent in this form of taxation the more glaring. The tax rates imposed in different cities range all the way from one to three per cent. In New York City the rate, which was for many years over two per cent, has been lowered as a result of the introduction of the special franchise tax and of the system of assessing real estate at its full value instead of at only 65 per cent of its value as formerly, until it is now (1915) about one and one-half per cent. Even this rate if applied as the law requires to such personal property as unregistered railroad bonds would in some cases take from the taxpayer about one-third of his income. No one would think seriously of defending an income tax which imposed such a heavy burden

as this upon taxpayers and it is partly because the tax is felt to be so disproportionally high on those owners of personal property who pay it that public opinion fails to condemn very severely those who do not. Thus the wholesale evasion of the tax by the vast majority of owners of personal property makes the assessed value of such property but a fraction of the actual value. The low assessment in turn necessitates a high rate of taxation if the needed revenue is to be secured. This high rate is an added injustice to those who are conscientious about paying the tax and serves to increase the number who determine to evade it altogether. This is the vicious circle in which the attempt to tax personal property has involved most American communities and there is no way of escape from it short of the frank abandonment of this species of taxation.

Many of the states, like New York, which cling to the form of the general property tax, have largely abandoned the substance. Beginning with the substitution of a registration fee of one-half of one per cent for mortgages in lieu of all other taxes, that state now permits the registration of bonds and other evidences of indebtedness on payment of the same fee, and exempts registered evidences of debt from other taxation. It is significant that under this plan more revenue has been secured from these forms of personal property than was derived from them when they were subject to the higher but easily evaded annual exactions of the general property tax.

Sources of Revenue of New York State.

§ 288. The present financial system of the state of New York is fairly typical of the form which state finances seem likely to assume all over the country. During the year ending September 30, 1912, the income of the state from all sources (exclusive of loans) equaled $50,040,000 and of this sum $31,914,000, or nearly 64 per cent, was derived from three sources: the taxes on corporations ($10,349,000), the tax on inheritances ($12,153,000), and liquor license taxes ($9,412,000).

Corporation Taxes.

The taxes imposed on corporations are usually described as franchise taxes, but assume a great variety of forms. The principal taxes in force January 1, 1913, were:

(1) An incorporation tax of one-twentieth of one per cent of the authorized capital.

(2) A general corporation or franchise tax upon each dollar of the capital stock equal to one-quarter of a mill for each one per cent of dividends declared on capital stock employed within the state if such dividends equal or exceed six per cent of the par value of such capital stock. If the dividends are below six per cent the tax is one and one-half mills for each dollar of the value of the capital stock employed in the state.

(3) A tax of one per cent on the capital and surplus of banks and trusts companies and on the surplus and undivided profits of savings banks.

(4) A tax of one per cent on the gross premiums of insurance companies.

(5) A tax of one-half of one per cent on the gross receipts from business done within the state of steam surface railroad, canal steamboat, ferry, express, navigation, pipe line, transfer, baggage express, telegraph, telephone, palace car and sleeping car companies and other corporations engaged in transportation and not enumerated under (6).

(6) A tax of one per cent on the gross receipts of elevated and surface railroads not operated by steam, and water, gas and electric lighting, heating and power companies, plus a tax of three per cent on the dividends in excess of four per cent on the paid-in capital declared by such companies.

Changes Proposed.

It will be seen that these taxes impose considerable burdens upon all classes of corporate enterprises. The chief respect in which they are open to criticism is in accepting gross receipts as an indication of tax paying ability and in failing to provide for the taxation of the bonds of corporations. A fairer plan of taxation would be that already referred to which takes the business man's valuation of the whole corporate enterprise as indicated by the current prices of its bonds and stocks as the criterion of tax paying ability and taxes it at a uniform rate. This plan has been sanctioned by the courts even in connection with the taxation of corporations engaged in interstate commerce when some reasonable plan (*e. g.*, proportional mileage within the state) for determining what part of this value is located within the state has been adopted. Besides affording a fairer basis of assessment, this plan has the merit of taxing investors interested in corporations as owners of bonds as well

as stockholders. Under the New York system the former still escape all taxation, except when they conscientiously return their bonds for the personal property tax or pay the special registration fee of one-half of one per cent authorized in 1911 as a substitute for other tax liability. This is unjust, whether regarded from the point of view of the majority who evade the tax or that small minority which pays it.

The Special Franchise Tax.

§ 289. In addition to the corporation taxes that have been described, New York has the peculiar tax on special franchises as real estate discussed in a previous section. Although of no great importance as a source of state revenue, since the state tax on general property is now so small, this has proved a very valuable resource for the cities of the state. Its importance for New York City alone may be judged from the fact that the assessed value of the special franchises of the public service corporations making use of its streets in 1905 was fixed at $302,000,000. With a tax rate of one and one-half per cent this means a yield of $4,500,000 unless some of the assessments are reduced on appeal. Adding this to the taxes paid by these same companies on their real estate and directly to the state as ordinary franchise taxes, it appears that considerable progress has been made toward making these monopolistic businesses bear their proportion of the tax burden.

Inheritance Taxes in the United States.

§ 290. The first inheritance tax imposed by an American state was through an act passed by the legislature of Pennsylvania in 1826. It applied only to collateral inheritances, as do the inheritance taxes now imposed by sixteen of the thirty states which have availed themselves of this source of revenue. As now levied inheritance taxes assume all degrees of complexity from the simple tax of five per cent on all inheritances passing to collateral heirs and strangers in blood of Virginia, Missouri and Arkansas, three of the states which do not tax direct inheritances at all, to the elaborate classified tax adopted by the legislature of Wisconsin in 1903. This distinguishes five classes of heirs and makes them subject to taxes progressing, in the case of direct heirs, from one per cent to three per cent, and in the case of collateral heirs and strangers in blood from five per cent to fifteen per cent according to the size of the estate. Exemptions of varying amounts ranging

from $100 in case of the last class to $10,000 in the case of widows are also allowed. From the point of view of revenue the inheritance tax of New York, which is now (1913) at rates advancing from one to four per cent, depending on the size of the estate, on estates above $5000 passing to direct heirs and to brothers and sisters and sons- and daughters-in-law, and at rates advancing from five to eight per cent, depending on the size of the estate, on other inheritances above $1000, is most productive, realizing for the state treasury over $12,000,000 in 1912. The only other states which derive large revenues from this source are Pennsylvania and Wisconsin.

And Abroad.

Comparing these results with those attained in foreign countries which tax inheritances, it would appear that the United States has only just begun to test the possibilities of this form of taxation. Great Britain in 1900, a fairly typical year, derived a revenue of some $92,000,000 from her different taxes on inheritances, or nearly one-fifth of her total national revenue from taxation. France obtains from this source some $40,000,000 annually, or about nine per cent of her national revenue, exclusive of that from the state monopolies. Even more significant is a comparison of the per capita returns from these taxes in different countries. A table prepared by Professor Millis * comparing the returns from inheritance taxes for the years 1899 to 1901 shows that Great Britain derives some $2 per capita annually from this source and France over $1. The per capita return for New York State, on the other hand, was only forty-nine cents, for Pennsylvania twenty cents, and for the majority of the states which have inheritance taxes less than ten cents.

Justification of Progressive Rates.

The principal reason for the larger returns of these taxes in Great Britain and France is that both apply the progressive principle in somewhat the same way as does the Wisconsin law. Thus the highest rate in Great Britain on very large estates passing to distant relatives or strangers in blood is 19½ per cent and the highest rate in France 20½. These rates are justified on two grounds. First, it is asserted that from the point of view of the heir it is not what the govern-

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ment takes but what is left that is significant and that when the estate is large the government may take even one-fifth of the whole amount without imposing too heavy a burden. Second, it is believed that from the point of view of the testator the prospect of leaving property to distant relatives or strangers plays but a small rôle as a motive to accumulation and that, consequently, such progressive rates have little or no tendency to discourage saving.

Inheritance Taxes Impose Little Burden on Heirs.

§ 291. The validity of the first justification will hardly be questioned when the relation of the state to property left at death is considered. Such property does not belong by absolute right to any one. In modern communities the right of disposing of property after death is recognized and protected but always under definite limitations designed to promote the general well-being.* Wives have certain rights in the estates of their husbands of which they cannot be deprived by will. In most countries children also have certain rights which the state undertakes to safeguard. The law properly protects the owner of property in its full enjoyment during his lifetime, even to the extent of putting no obstacle in his way if he wishes to distribute it among his family or friends before his death. When he dies, however, the disposition of the property which he preferred to retain as his own to the very end assumes large social significance. No one now has a claim upon it comparable from the social or legal point of view with that which has been dissolved by the death of the owner. But his "dead hand" cannot be permitted to determine what shall become of it regardless of the interests of the living. In fact, the interests of the living are now the paramount consideration. The heirs designated in the will of the deceased, if he has made a will, are entitled to receive that part and only that part of the estate which the law permits. If he has made no will then the question of the division of the property is one for the law alone to determine. The imposition of an inheritance tax is simply the assertion by the state of a right

* This right is essentially modern. It is not necessary to go back very far in the evolution of law to find property left at death reverting to the state or ruler as a matter of course. *Cf.* Ely, *Evolution of Industrial Society*, Chapter on Inheritance Taxes.

to a share in property left at death under the conditions set forth in the tax law. If the share taken by the state is moderate, there is every reason to think that the heirs will accept it as a matter of course and think gratefully of the part that is left to themselves rather than grudgingly of the part which they do not receive. There thus appears to be good ground for the claim that moderate inheritance taxes increasing from one per cent on inheritances above a certain amount left to direct heirs even to as much as twenty per cent on very large estates passing to collateral heirs or strangers do not impose a burden that is consciously felt by any one. They certainly do not impose a burden on the testator since he is dead; almost as certainly they do not impose a burden upon the heir as he is usually too much interested in what he receives to feel the loss of the portion retained by the government.

Tendency to Discourage Saving Questionable.

The second contention, that is, that moderate taxes of this kind do not discourage the accumulation of property, must be accepted with some qualifications. What may be claimed with confidence is that the discouragement will be too slight to offset to any considerable degree the fiscal advantages of such taxes. The motives that lead to the accumulation of property are strong and are each year growing stronger. There is little danger that moderate taxes imposed upon inheritances will retard appreciably the accumulation of the fund of capital upon which the efficiency of industrial processes so largely depends. Thus from every point of view the taxation of inheritances, if not pushed too far, appears to satisfy the requirements of just and reasonable taxation. Such taxes are easy to assess and collect. They cannot be shifted and yet they impose little or no burden upon those whose inheritances are lessened in consequence of their existence. Finally, they have no bad effects upon industrial society, comparable with the revenue which they afford to the state. Under these circumstances it is not surprising that they are coming to be more and more important sources of income in all progressive countries.

§ 292. In addition to the taxes which have been discussed there is one which merits serious consideration because of the

The Income Tax of the United Kingdom.

importance it has acquired, after only two years' trial, as a source of federal revenue, that is, the income tax. The similarity between the two countries makes the operation of this tax in the United Kingdom of most interest to students of taxation in the United States. As there assessed it is a tax at a uniform rate on incomes from all sources, incomes being classified for convenience of assessment under five schedules. One of its principal characteristics from the point of view of administration is the full use made of the device known as "stoppage at the source." For example, the tax is deducted from the salaries of public officials and from the interest on the public debt before payment is made to those entitled to receive income from these sources. Again, corporations are required to deduct the tax from the interest and dividends which they pay to their bond and share holders. Finally, even the financial agents who collect incomes from the bonds or stocks of foreign corporations are required to report the amounts collected and the names of their clients to the government before they surrender the income to those to whom it belongs.

Extent of Evasions.

Notwithstanding the high development of this method of taxing the income as it arises, there are certain sorts of income that can only be assessed on the basis of the personal declaration of the recipient. This is the case to a large extent as regards income from foreign investments and almost wholly as regards income from "trades and professions." It is in connection with the assessment of these incomes that the income tax is least satisfactory. What proportion escapes assessment can only be guessed at, but all authorities agree that it is considerable. Thus, according to the estimate of Sir Robert Giffen the returns from foreign investments received by inhabitants of the United Kingdom equaled in 1882 some seventy-five and in 1885 some eighty-five million pounds sterling. The returns assessed under the income tax in these years amounted to only thirty and thirty-five million pounds, respectively. The same authority estimates that in 1885 only about eighty-five per cent of the incomes from trades and professions which were subject to the income tax were honestly reported. Although it is impossible to say what propor-

tion of the total income evades taxation, it is probably well within the truth to put it at ten per cent.* Since, however, these evasions include a variety of incomes there is no reason to think that they involve any shifting of the tax on the part of those who do pay it, as would be the case if incomes from some one special trade or profession escaped while incomes from all other sources were taxed.

Its Importance and Convenience as a Source of Revenue.

§ 293. From the point of view of revenue the income tax is an important part of the British fiscal system not only because it yields in ordinary years from one-sixth to one-seventh of the entire imperial income, but because in time of emergency its yield can be largely increased by simply adding to the rate of taxation. This characteristic of the tax is so highly appreciated that it is now voted afresh each year at just that rate which the fiscal requirements of the government make desirable. It thus serves to give flexibility to the public revenues and to make possible a more exact balancing of revenues and expenditures than can be attained by countries which are without some such elastic source of income. The tax is so drafted as to allow only moderate exemptions—in 1904 an exemption of $800 on incomes under $2000, of $750 on incomes between $2000 and $2500, of $600 on incomes between $2500 and $3000 and of $350 on incomes between $3000 and $3500, but no exemption on incomes above $3500. The rate has varied considerably in recent years in consequence of the extraordinary expenditures necessitated by war. During the six years, 1895 to 1900, it was only eight pence in the pound, or 3⅓ per cent. The Boer war caused it to be advanced to as much as one shilling in the pound, or 5 per cent. High as this seemed, it has been far exceeded during the present struggle, when as much as one-fourth of large incomes has been exacted. It is clear evidence of the high degree of efficiency attained by the machinery for the assessment and collection of the tax, that its yield at these high rates can be calculated with almost as much accuracy as when the rates were substantially lower.

§ 294. In the United States income taxes have been employed by both the state and the Federal governments. Alto-

* *Cf.*, Hill, *The English Income Tax*, pp. 382-387.

Income Taxes in the United States.

gether some sixteen states have imposed this tax at some period of their history, but of these only six continued to use it January 1, 1903.* The principal defect in the tax as a state tax is that it is difficult to assess it fairly and that when it is imposed it has a tendency to drive persons with large incomes into other states where no such tax is found. Notwithstanding these disadvantages, the tax is relied upon by some of the most progressive states (*e. g.*, Wisconsin) as an important source of revenue.

Former Income Taxes.

Reference has already been made to the country's experience with a federal income tax. During the Civil War when Congress was making use of every possible form of taxation an income tax was imposed which was continued in force from 1863 to 1873. Although somewhat crudely devised and never very efficiently administered, this tax brought into the treasury in 1866, the year of largest yield, nearly $73,000,000. On the strength of this experience the tariff-reforming Congress elected in 1892 included an income tax as a prominent feature of the revenue law passed two years later and commonly referred to as the Wilson Act. This tax was at the uniform rate of two per cent and applied to the net incomes of corporations as well as to those of individuals. Personal incomes were allowed an exemption of $4000. It was thus practically a tax on the well-to-do from which persons in moderate circumstances were exempt—except as they were investors in corporate enterprises—and was justified on the ground that other federal taxes, that is, customs and excise duties, fall chiefly on the poor.

The Income Tax Amendment of 1913.

How successful this tax might have been as a means of raising revenue will never be known, since it was declared unconstitutional by the Supreme Court of the United States during the first year of its operation on the ground that it was a "direct" tax in the constitutional sense and must, therefore, be apportioned, if imposed at all, according to the population. The income tax amendment to the Constitution which became operative in 1913 declares that "The Congress shall have power to lay and collect taxes on incomes, from whatever

*Cf., Kinsman, *The Income Tax in the Commonwealths of the United States*, pp. 110 *et seq.*

source derived, without apportionment among the several states, and without regard to any census or enumeration." This made possible the income tax provisions of the Underwood Tariff Act passed in October of the same year.

The Amended Federal Income Tax Law of 1916.

§ 295. The Federal income tax law requires all citizens of the United States and all persons residing in the United States in receipt of *net* incomes in excess of $3000 to make returns of their incomes to the Commissioner of Internal Revenue or his local representative, before March first of each year. The exemptions allowed are $3000 for each individual, or $4000 for husband and wife living together and making a joint return. In addition all items of income on which the income tax has already been paid in accordance with the corporation income tax law may be deducted, together with interest on personal debts, and allowances for depreciation, losses, etc. The normal rate of taxation on all taxable incomes is two per cent.* To this are added surtaxes on larger incomes increasing by gradual stages from one per cent on the amount by which an individual's total net income exceeds $20,000 and does not exceed $40,000 to thirteen per cent on the amount by which it exceeds $2,000,000.

The yield of this new tax has proved somewhat smaller than was anticipated by the government. For the calendar year, 1914, 357,515 income tax returns were made of which 127,448, or 35 per cent, showed incomes of from $5000 to $10,000; 149,279, or 42 per cent, showed incomes of from $3000 to $5000, and the remainder, 80,788, or 23 per cent, incomes over $10,000. Only 2348 returns were for incomes of $100,000 and over. Of these only 174 exceeded $500,000 and 60, $1,000,000. For the same year the revenue derived from the normal tax of one per cent was $16,559,493, indicating a total taxable income of $1,655,949,300. To this the surtaxes added a total of $24,423,024, divided as follows: from incomes between $20,000 and $50,000, $4,106,673; incomes between $50,000 and $75,000, $2,500,890; those between $75,000 and $100,000, $2,102,927; those between $100,000 and $250,000, $5,945,105; those between $250,000 and $500,000, $3,328,424, and those over $500,000, $6,439,005.

* Amending Act of September 8, 1916.

The substantial increases in rates brought about in 1916 will more than double the revenue which the tax affords. A much needed further change is a lowering of the exemption so that at least the large class of persons with incomes of from $2000 to $3000 shall also contribute their quotas. This would not only make the tax more truly democratic but would lessen the temptation to evasion on the part of those now near the border line of complete exemption and of persons of wealth who consider the tax in its present form unjust and discriminatory. With a modification in this direction and further improvements in the methods of collection, the tax seems likely to remain a permanent feature of the federal revenue system. Its chief merits are that it compels people of large means to contribute largely toward the support of the common government and that the revenue it affords may be increased or decreased within wide limits by the simple expedient of varying the rate.

Taxation and Distribution.

§ 296. The question of the effect of a system of taxation upon the distribution of wealth is even more complicated than that of the shifting and incidence of taxation, to which it is closely related. This may be illustrated by reference to customs duties. According to the usual analysis, these are paid by importers only in passing, as it were, since they normally add them to the prices they ask for their goods and thus shift them to the ultimate payers, consumers. This is as far as it is necessary to go to determine the incidence of such taxes; but to judge of their influence on the distribution of wealth we must carry the analysis further. If they fall on necessaries and are permanent, they increase the cost of living. This makes higher money wages necessary to the maintenance of any prevailing standard of living. To the extent that the standard of living has a controlling influence on wages by influencing the growth of population, such taxes compel employers to pay higher wages. In this indirect way a given system of taxation may have an important influence upon the distribution of wealth.

The relation between taxation and distribution is usually treated as though the two were separate and distinct processes. The laws of distribution are explained, as has been

done in this treatise, with the deliberate omission of taxes from the picture. Taxes are then brought in as a means by which incomes already distributed are laid under tribute so that the government may be maintained. Although a convenient, this is a somewhat misleading, account of the matter. The government asserts its claim not after all other claimants have been satisfied but as promptly and even more imperiously than any other recipients of income. The payment of taxes is thus a vital part of the distributive process, differing from the payment of profits, rent, wages and interest, only in that the government's claim is based on superior force rather than on free contract guided by economic motive. This does not mean that the government may not be properly described as a factor in production and, therefore, entitled to a share of the product. Undoubtedly its part in production is of the most vital importance. It merely means that as this part is not based on contract, there is no method of measuring economically the amount of its contribution. It performs the indispensable services of protecting life and property, preserving order, administering justice, etc., and takes in return what it pleases, or rather what the citizens in a democratic country please to permit it.

Land and Special Franchise Taxes Paid out of Funded Incomes.

§ 297. From the point of view of their influence on the distribution of wealth the taxes that have been discussed in the preceding pages may be divided roughly into three different classes. To the first class belong land and special franchise taxes. They fall upon what we have previously styled the "funded" income that is given off year by year by permanent and durable property, like land, as space to build upon, or by special and exclusive privileges, like franchises granting exclusive rights to lay tracks or string wires along the public streets. Normally such taxes have no effect on distribution except to divert to the use of the government a part of the income that would otherwise have gone to the owners of the property or franchises taxed. Such property and franchises are already being made to yield all of the income that they can afford under the given circumstances and the imposition of the tax in no wise alters these circumstances. Thus the entire tax is paid out of the funded income.

Since the value of sources of funded incomes is the annual net income capitalized at the current rate of interest, a secondary effect of such taxes is to reduce this value by the capitalized value of the tax. If the tax is made so high as to take the entire funded income, the property or franchise which gives rise to it ceases to have any value as an investment. In practice, of course, taxes usually take only a portion of the funded income and merely reduce without destroying the value of the lands and franchises from which they come. From this relation between the rate of taxation and the value of the property taxed two principles are deduced of considerable practical importance. First, new or higher taxes on land or special franchises, unless these are appreciating so as fully to offset such taxes, involve a forced reduction in the investment value of the property taxed. Second, after such taxes have been imposed long enough to permit of the property having changed hands they become virtually burdenless so far as the current owners are concerned.

Commodity and Business Taxes.

The second class of taxes include those on commodities which are regularly produced and consumed and upon competitive businesses. These are normally shifted from those who pay them to those who consume the commodities or are served by the businesses taxed. Their effect on distribution is complex, but in general they may be said to figure among the conditions to which economic motives, such as standards of living and standards of saving, adjust themselves. A concrete illustration will help to make the effect of such taxes clearer. In the United States at the present time the greater part of the federal revenue is derived from taxes upon commodities which enter into the consumption of the ordinary wage-earning family, that is, on tobacco, liquors, sugar, cotton and woolen goods, etc. Suppose that these taxes add—and this is a moderate assumption—five per cent to the expense of living in this country. This higher cost of living has now been experienced for many years. It is one of the factors with which immigrants must reckon when they cross the ocean in pursuit of higher wages. Is it not probable that the higher cost of living has acted as a slight check upon the growth of population, partly by checking the birth-rate and partly by

discouraging immigration, so that it is one of the influences that account for the undoubted fact that the American standard of living and scale of wages are higher than the European by more than enough to offset the higher cost of living in the United States? Or, to put the case negatively, if these taxes were all repealed and in their place a federal income tax were imposed exempting incomes under $5000 and at a rate sufficient to afford all needed revenue, is it probable that the wage-earning population of the United States would be permanently better off? Would not a higher birth-rate and a larger tide of immigration before long so add to the labor supply that wages would be reduced by an amount corresponding to the lowered cost of living? Space will not permit an exhaustive discussion of these questions, but it should be clear that a higher cost of living, which is deliberately brought about and continued year after year through a country's taxing system, may be less of a hardship to wage-earners than is ordinarily supposed. From this brief discussion of this second class of taxes that is regularly shifted to consumers, two principles may be inferred. First, new taxes on commodities that are regularly produced and consumed or on competitive businesses impose a burden on the persons who consume such commodities or who are served by such businesses. Second, as time goes on there is a tendency toward readjustment which makes such taxes less and less objectionable the older they become.

Inheritance, Income and General Property Taxes.

The third class of taxes include those on inheritances and those on incomes and general property when accurately assessed. These taxes cannot be shifted and, since they do not fall upon one particular kind of property as distinct from other kinds, neither can they be capitalized. Their effect upon distribution is thus even slighter than that of taxes of class one, since they merely take from the incomes of different persons without altering their economic relations to others nor even reducing the value of their property for investment purposes. As was brought out in our discussion of these taxes, those on inheritances are least objectionable because least burdensome to those who must pay them. Those on income are admirable when they can be accurately and fairly

assessed, but they may be very unfair if evasions are common. Finally those on general property fall in practice so far short of the ideal of taxing all property fairly and equally that they are not at all to be recommended.

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CHAPTER XXVIII

REFORM OF TAX SYSTEM OF THE UNITED STATES

Considerations Bearing on Proposed Tax Reforms.

§ 298. The reform of the taxing system of any country is complicated by the fact brought out in the last chapter, that as regards at least two great classes of taxes, old taxes are very much less objectionable than new ones. Since reform means usually substituting something new for something old and established, this truth is well calculated to discourage reforming enthusiasm. If the following suggestions as to changes that would be desirable in the taxing system of the United States seem conservative it is partly because the writer is convinced of the tendency of taxes like wine to improve with age and partly that he is, perhaps unduly, impressed by the administrative difficulties in the way of some of the taxes currently advocated.

The first fact that must be borne in mind by the would-be reformer of taxing methods in the United States is the relation between the fiscal requirements and the taxing powers of the different branches of the government. The Federal Government has limited functions to perform and almost unlimited taxing powers. For it the problem of securing adequate revenues is comparatively simple. The state governments in turn are in a position of ease, if not of affluence. The functions which they usually assume are few and inexpensive, while their taxing powers are but slightly abridged by the federal and state constitutions. The situation is very different with the local governing bodies and especially the cities. Their needs, as already shown, call for twice as much revenue per capita as those of both state and nation together; and at the same time their taxing powers are rigidly limited to those expressly conferred by state legislation. For them the problem of making ends meet is always acute and the chief questions about any new tax are: will the courts sustain it and will it bring in revenue?

Suggestions as to Federal Tax System.

§ 299. In the opinion of the author it will be desirable, even necessary, for the Federal Government to continue to rely largely on customs and excise duties for the revenues it requires. For reasons that have already been explained he advocates the substitution of a tariff for revenue only for the present cumbrous protective tariff (Chapter XXII.), but this change need not and should not involve any considerable reduction in the receipts from customs duties. Such duties have the merit of being easy to assess and cheap to collect, and if fully balanced by taxes falling on persons with property in proportion to their means are not inequitable. The Federal Government should derive increasing revenues also from income taxes applying to corporations and to businesses generally as well as to personal incomes. It ought not, however, to attempt to draw too large revenues from corporation and business taxes, because these must continue to be the chief dependence of the state governments. A final source of federal income which should prove increasingly important is from the rentals of public lands. Agricultural lands will, no doubt, continue to be made over outright in small tracts, to homesteaders who are willing to incur the expense and trouble of clearing them for cultivation. There seems no good reason, however, why grazing and mineral lands should not be leased to those who wish to use them on terms that will be at once fair to the users and favorable to the government. Leasing mineral lands on a royalty basis from private owners has become a common practice. Mining companies would be equally willing to lease government lands on the same basis if such a policy was definitely adopted by the authorities at Washington. Through this plan the immensely valuable coal and mineral lands still in the possession of the government might be made to yield a substantial revenue for an indefinite number of years. Some income ought also to be secured from the forest lands which the government has already withdrawn from private entry on a considerable scale. From these various sources the Federal Government can obtain ample revenues in the future as it has in the past.

§ 300. Taxation depends so largely upon local conditions for its efficiency that suggestions in reference to desirable

Reform of State Taxation.

state and local taxes have little point unless it is clearly indicated what types of state or branches of local government are referred to. In what follows the writer has had in mind the conditions and needs of the more advanced industrial states and of the larger cities of the United States. Space precludes a discussion of the tax problems of all the different states, and this is the less necessary because those that are most advanced are already in the situation toward which the others are rapidly moving.

General Property Tax Should Be Abolished.

The most important reform that is needed in connection with state taxation is the abolition of the discredited general property tax as a source of state revenue. The part of this tax which applies to real estate should be remitted not because real estate is too heavily taxed but because all revenue from this source ought to be assigned to the local governments whose needs so far exceed their taxing powers. The reason for abolishing the other part of the tax, that applying to personal property, is even stronger. Experience has demonstrated conclusively the impossibility of assessing such property fairly in complex industrial communities. Under these circumstances to continue the attempt to tax personal property is to bring the whole system of taxation into disrepute. In place of the general property tax three fruitful sources of revenue are open to the state governments—inheritance taxes, corporation taxes and license taxes.

Inheritance Taxes Should Be Extended.

The arguments in favor of taxing inheritances and the form which such taxation may properly take have already been discussed at length. The Wisconsin law with its five distinct classes of heirs is perhaps more complicated than is desirable. It would probably suit American conditions better to distinguish only two classes of heirs, those in the direct line and collateral relatives and strangers, or, at most three, those in the direct line, near collateral relatives, and more remote relatives and strangers. For each class an inheritance of a certain size should be exempt from taxation, while larger inheritances should be taxed at rates increasing with the amount of the inheritance. The range of progression should depend in part on local sentiment, but it is believed that no good reason can be urged against going at least as far as the

Wisconsin law and making the highest rate applying to large inheritances passing to remote relatives or strangers fifteen per cent. The writer would even advocate the higher maximum, twenty per cent, imposed in the United Kingdom and in France. The successful experience of New York with its moderate inheritance tax indicates that large revenues may be derived from this source without imposing any excessive burden upon taxpayers.

The Best Kinds of Corporation Taxes.

§ 301. Of the various plans that have been tried for taxing corporations the three that promise greatest success in the United States are by means of: (1) gross receipts taxes; (2) capital stock and bonded debt or ordinary franchise taxes, and (3) special franchise taxes. Gross receipts taxes are not generally to be commended, but in connection with one form of business, that of insurance, they offer the easiest, surest and perhaps fairest method of taxation yet devised. For corporations generally the fairest basis of taxation is believed, for reasons already sufficiently explained, to be the aggregate value of the outstanding shares of stock and of the bonds. Together these reflect pretty accurately the normal earnings of corporations which constitute the best available test of tax paying ability. Until the states undertake to control the bookkeeping of corporations so that the earnings themselves can be accurately assessed the stock-and-bond index of earnings is undoubtedly the most reliable substitute. Even a moderate tax applying to all of the corporations doing business within a state in proportion to the amount of that business is capable, as the experience of several of the states demonstrates, of bringing in large revenues. The special franchise tax is advocated as a supplement to the ordinary franchise tax for corporations which enjoy special and exclusive privileges. Reasons have already been given for favoring the New York plan by which special franchises are assessed as real estate and the greater part of the proceeds of the tax upon them is enjoyed by the local governing bodies.

A serious obstacle which the states encounter in their efforts to secure larger revenues from inheritance and corporation taxes is the withdrawal of persons of large means

and of corporations to other jurisdictions. This might be overcome either by making the taxes imposed by neighboring states uniform or by causing the Federal Government to act as the agent of all of the states in assessing and collecting these taxes, paying over to the states their proportionate shares of the proceeds less the expense of collection. In the United States some little progress has been made in the first direction, but it is still true that centers of population and of business like New York City suffer in consequence of the tendency of those who carry on business and make large fortunes there to live outside the jurisdiction of the tax collecting authorities. The other plan of having uniform inheritance and corporation taxes imposed by the Federal Government would be much more satisfactory and, judging from European experience, it is one that is likely in time to find favor here. The chief obstacle to its adoption is the difficulty of deciding on a basis for the division of the proceeds among the states that would seem entirely fair.

Evasion of Taxation by Non-residents.

§ 302. Up to the present time the high license system has been applied only to the liquor business. The moral advantages of confining the selling of liquor to fewer establishments and of having these in more responsible hands have been the chief argument urged in its favor. Experience with it in operation has made prominent certain economic advantages which suggest the desirability of applying it to other branches of trade. The selling and distribution of milk, ice, groceries, provisions, etc., admit of even larger savings through the concentration of management brought about by the high license system than the selling and distribution of liquors. These businesses offer a large and practically untouched field for the tax gatherer and just as the payment of high licenses has served neither to make the saloon business unprofitable nor to compel the consumer to pay much more for his beer and whisky so it is believed that the payment of high licenses by milk dealers, ice companies, grocers, butchers, etc., would serve merely to concentrate these businesses into fewer and more competent hands without appreciably raising the prices of the commodities sold. By extending its license system to include these and other businesses every state in which

The High License System Should Be Extended.

large cities are found might put itself in a position to dispense with the returns from the general property tax.

The Real Estate Tax Should Be Subdivided into a Land Tax and a Buildings Tax.

§ 303. The local governing bodies must doubtless continue as at present to derive the greater part of their revenue from the taxation of real estate. In so doing, however, they ought to differentiate the land or ground tax from the building tax and allow these taxes to go different ways. With the abolition of the tax on personal property special property taxes remain in place of the general property tax and these must be defended upon independent grounds. A moderate building tax may be defended because it selects a reasonable criterion of tax paying ability, that is, the sort of house or place of business a person occupies, and bases its exaction upon that; but it should not be confused with the land tax. A tax on land, if of old standing, finds sufficient justification in the fact that those who pay it no longer feel it as a burden. To relax it would be to make them the surprised recipients of income which they had long ceased to think of, or had never thought of, as theirs. But this justification of an *old* land tax is reversed into a ground of condemnation for a *new* land tax since, as already explained (Sections 274 and 275), a new or higher tax on land, which has not appreciated in value, not only deducts the amount of the tax from the income of the landowner but causes his land to depreciate by the amount of the tax capitalized at the current rate of interest. It thus involves a virtual confiscation of a part of his property. If the problem were to be decided merely from the point of view of present justice in taxation we should have to say that no tax is more fair than an old land tax and none more unfair or discriminating than a new land tax. But the problem is too important to be decided finally as a mere question of adjusting tax burdens. It involves the whole question of the justification of the unrestricted private ownership, and private enjoyment, of land. It is this aspect that is made prominent in the program of the so-called " single taxers " and before attempting to decide as to the merits of their proposal we must consider carefully the arguments that may be urged for and against the institution of private property in land.

Historical Reasons for Private Property in Land in Europe.

§ 304. Private property in land was adopted, in the United Kingdom, as has been shown (Section 6), after centuries of experience of the communal or joint ownership of the manorial system. In that country, as on the continent of Europe, this communal ownership was found to be deadening to enterprise and progress because it compelled the adoption of uniform methods of cultivation by the members of each rural community and because it offered no adequate incentive to those large plans of improvement, such as the draining of marshes and the introduction of artificial fertilizers, to which English agriculture was later to owe so much. It is true that the system has had its dark side in that the transition to it afforded an opportunity for much fraud and injustice, and in that it has resulted in the formation of great hereditary estates owned by absentee landlords. Even with these drawbacks, however, it is believed that the introduction of private property in land has resulted in national gain, and if measures had been taken, as they might easily have been, to prevent these evil results, the beneficence of the change would hardly admit of question.

In the United States.

Even without the precedents established by European countries, it is highly probable that the early settlers of America would have adopted private property in land as the only system adapted to the conditions of a new country. To attract colonists it was necessary to offer them every inducement. Guaranteeing them in the ownership of such land as they were able to reclaim from the wilderness and defend from the Indians seemed a small enough return for the hardships and privations which they were required to endure. Of course, land was also secured at times on terms that had little regard to the general interest, but, on the whole, the results of the system have abundantly justified it. The liberal land policy which the country has pursued from the earliest period has been a chief factor in the rapid settlement of the American continent. Unwise as it has undoubtedly been in some of its details, it can hardly be questioned that it has been, in its main features, sound and beneficent.

§ 305. An historical justification of private property in land is quite a different thing from a demonstration that the

The Present Land Problem.

system must endure until the end of time. At some period it is quite certain that this system, like others that preceded it, will cease to be adapted to industrial conditions and will need to be modified, if the best interests of society are still to be served. We have now to weigh the truth of the claim of advocates of land nationalization that this period has already come for the countries of the Western World.

The principal advantages of private property in land are realized only when the owner is at the same time the occupier or cultivator. Under these conditions self-interest insures in most cases the most economical and progressive utilization of the land attainable. When, on the other hand, the owner is an absentee landlord, who leases the land to the occupier or cultivator, it can make little difference whether he is the administrator of a private estate or an official of a well-organized government. In either case the actual use made of the land must depend upon the terms of the lease and the efficiency of the lessor. It follows that the suitability of the present system of private property in land to present conditions hinges largely upon the question whether absentee landlordism both in town and country is coming to be the rule or whether this condition is still exceptional.

Extent of Absentee Landlordism in the United States.

Space will not permit an exhaustive analysis of the actual situation even in the United States, but a few facts may be mentioned as proof that in this country, at least as regards agricultural land, absentee landlordism is still exceptional and occupation and cultivation by the owner the rule. Thus, according to the census of 1890, 72 per cent of the 4,565,000 separate farms in the country in that year were operated by their owners. The percentage had decreased to 62 in 1910, but owing chiefly to an extension in the Southern States of the system of cultivation "on shares," which has the one advantage that it insures the owner's continued interest in the methods of cultivation practised by the tenant.

In towns and cities the situation is far less favorable to the present system of private property in land than in the country. Moreover there is reason to think that, especially in large cities, absentee landlordism is becoming more and more the rule, for the simple reason that more and more

people are coming to live in tenement and apartment houses.* If this is the case, there may be good ground for the contention that the system of private property in land is ceasing to serve any useful purpose in cities which the system of public ownership would not serve as well and that the time is ripe for a gradual transition to the latter.

George's "Progress and Poverty."

§ 306. The plan for diverting the income we have styled rent from private landowners to the government that has attracted most attention in the United States, "the single tax," was first proposed by Mr. Henry George, in his widely read book, *Progress and Poverty*. Mr. George's avowed purpose in writing *Progress and Poverty* was "to seek the law which associates poverty with progress and increases want with advancing wealth," and in it he attempts to prove that this law results from the institution of private property in land, which, he believes, causes the benefits of progress to redound to the exclusive advantage of landowners. Diverting these benefits to the whole community by means of a "single tax" on land rent would, he thinks, "raise wages, increase the earnings of capital, extirpate pauperism, abolish poverty, give remunerative employment to whoever wishes it, afford free scope to human powers, lessen crimes, elevate morals and taste and intelligence, purify government, and carry civilization to yet nobler heights." The argument by which he arrives at this gratifying conclusion is too elaborate to reproduce in brief compass, and this is the less necessary because there is no evidence of the truth of the law for which he seeks an explanation and whose existence is vital to his whole contention. Poverty has undoubtedly persisted in spite of progress, but that it has increased with progress is directly contrary to the fact. Equally unwarranted is the assumption on which his conclusion rests that every improvement in productive power tends to increase rents. This could only be the case if the population of each country had an absolutely rigid standard of living and responded to every improvement by multiplying until the margin of cultivation was lowered to a point at which wages were no higher than before. If

* Already in New York City but one family in nine owns its place of residence.

such were the fact, no real progress for the mass of the people would be possible under any industrial system.

Henry George's extreme claims, both as to the need for a radical remedy for present economic evils and as to the benefits that would result from his "single tax," were extravagant and unwarranted, but his proposal ought not to be dismissed on these merely negative grounds. The influence which *Progress and Poverty* has exerted over its hundreds of thousands of readers has been due, not to the novelty or profundity of its argument, but to the sincere desire to benefit humanity which so clearly inspired the author in its composition. The plan suggested should be considered in no meaner spirit, that is, with sole reference to its social utility.

Objections to the Single Tax.

§ 307. Among the objections that may be urged against the single tax three merit particular attention: any *single* tax is undesirable; it would involve the wholesale confiscation of property; in practice it could be carried out only in such a crude and approximate way that it would lose many of the merits claimed for it. The first objection would be unimportant did it not serve to show the extent to which belief in the single tax rests upon faith rather than upon reason. Henry George appears to have thought that there was a divinely ordained relation between the legitimate needs of government and the size of the rent fund, and that the last would always suffice to cover the first. This view overlooks the fact that the two are controlled by very different considerations. Of two cities of the same size and with the same aggregate rent roll, one might legitimately spend two or three times as much for public purposes as the other, if its citizens had developed to that degree superior appreciation of the importance of common needs. Even if admirable in all other respects, neither a rent-tax nor any other tax would be desirable as the *single* tax.

It Would Involve Confiscation.

The next objection is more fundamental and applies to all plans involving the sudden diversion of land or the income it affords to the common benefit. Such policies amount to confiscation and can only be justified on the ground that they are essential to general well-being. For centuries the law has permitted the private ownership and enjoyment of

land. Pieces of land have changed hands on the average dozens of times in the United States, and present owners have in most cases acquired them not as free gifts of nature nor as grants from the government, but by paying for them, just as they have had to pay for other species of property. To deprive them without compensation of their lands, or what amounts to the same thing, of the income which these lands afford, would be to commit a monstrous piece of injustice. Such injustice might possibly be countenanced if there were any rational grounds for sharing Henry George's expectations as to the results of such a policy, but in the absence of such grounds it must be condemned in unqualified terms. A state which would thus overturn an established institution, and confiscate by wholesale the property of its citizens, would lose the confidence of those citizens and be reduced to a condition of anarchy. Any increase in public revenue or reduction in other forms of taxation so secured would be bought at far too high a price.

Difficult to Administer.

The third and last objection to the single tax is administrative in character. Although the rent of land may be distinguished in thought from interest on capital invested in the land, it is often impossible to distinguish it in practice. As already pointed out, permanent improvements to land, such as draining marshes, or filling in hollow places or leveling down elevations to adapt lots for building purposes, become indistinguishable from the land itself. For the government to appropriate the entire income from improved land would be for it to place a ban upon further improvements. For it to appropriate only the true economic rent would, in many cases, be impossible, as there is no means of calculating exactly the amount of that rent. Thus the carrying out of the single-tax program is confronted by serious practical difficulties.

Desirable Reforms in the Present System of Land Ownership.

§ 308. Disapproval of the single tax by no means implies complete satisfaction with the present land system. At several points that system calls for reform, and all the more urgently because in connection with land ownership and taxation to postpone changes is to render them more difficult of accomplishment. It will be possible in these pages merely

to indicate in outline the reforms which, in the opinion of the author, would be especially desirable in the United States.

As regards the Federal Government, the changes in policy that are called for have in view the more careful conservation and more economical utilization of the public domain. Vast tracts should be set aside as forest reserves. Other vast tracts, suitable only for cattle and sheep ranges, should be leased on terms that will insure their conservation and at the same time afford a revenue to the government. Still other public lands, valuable for the mineral wealth which they contain, instead of, as at present, being sold for much less than their prospective, or even actual, value, should also be leased on terms sufficiently liberal to encourage the prospector and the mine investor, and yet calculated to secure for the public treasury a proper share of these stores of natural wealth, which up to the present time have served almost exclusively to swell the fortunes of private individuals. Finally, the policy embodied in the Homestead Act of practically giving a farm of 160 acres to every *bona fide* homeseeker who will cultivate it, should be amended to conform to present conditions. On the one hand, provision should be made by which the government would receive a more adequate return for the superior tracts of agricultural land withdrawn from time to time from the Indian reservations and thrown open to settlement. On the other, government lands benefited by the large irrigation projects that are carried through with public funds should be sold on terms that would enable the government to get at least a partial return for its investment. Experiments should also be made with different forms of leasehold tenure even in connection with agricultural land, to test by actual experiment the truth of the proposition that no other form of control is as favorable to the best utilization of farm land as outright ownership on the part of the cultivator.

The Problem in Cities.

Next to the Federal Government the political units most interested in the land problem are the cities of the country. This is because, first, modern cities themselves require a constantly increasing proportion of the land within their limits for parks, schools, playgrounds and other public purposes;

second, in cities the public interest demands a larger degree of public control over the uses to which landowners may put their property than is necessary in the open country, and third, a principal source of city revenue is the tax on real estate. Each one of these reasons suggests a line of development which the future land policies of American cities should follow. Cities must become landowners on a greater and greater scale if the best interests of their citizens are to be cared for. Not only are the public purposes referred to, parks, schools, playgrounds, etc., expansive, calling for more and more space for their realization as higher standards are developed, but there are other purposes little less important that require the city to acquire land. Undesirable tenement-house properties must be condemned and clean and wholesome tenements substituted. Sometimes the best method of effecting this change is for the city to buy the land and itself control the new improvements to be erected upon it. What this may in time lead to is indicated by the situation in some German cities where a considerable proportion of the land within the city belongs to the municipality and is so well administered that no one is in favor of returning to the older system of larger private land ownership. The administration of few American cities is so efficient as to make development along this line immediately desirable, but no one familiar with what is going on in other countries can doubt that as efforts for municipal reform bear fruit in better government, the cities of the United States will also become landlords on a larger and larger scale.

They Must Acquire More Land.

The necessity for rigid control over the uses to which land in cities is put is obvious. Not only must uses which will be offensive to the neighborhood be prohibited and building materials that will not readily catch fire insisted upon, but the height and proportionate lot area of buildings must be prescribed, the location of factories regulated and, in general, the public interest protected at all points where it would be sacrificed if free play were given to the selfish private interests of landowners.

Rigid Regulation Necessary.

The last line of development calls for an increase in the burden of municipal taxation that shall fall upon the land.

Larger Share of Tax Burden Should Fall on Land.

As advocates of the single tax point out there are several reasons why a tax on the land within its limits is a peculiarly suitable source of revenue for a developing city. First, it is a tax which falls, where it is intended to fall, on the landowner, who can neither shift it nor evade it. Second, notwithstanding the fact that landowners must pay it, an old land tax after a time ceases to impose upon them a burden of which they are conscious. This, as already explained, is because it is the net rent, that is, the gross rent less taxes and other necessary deductions, that is considered when land is valued. When a piece of land changes hands the price paid makes full allowance for the taxes that are regularly imposed. The land is bought subject to taxation and the new owner thinks not of the gross rent but only of the net rent as the income to which he is fairly entitled. Third, the increase in the rents and prices which city lots command as compared with open fields, is due chiefly to the growth of the city and to improvements for which the city has paid. It, therefore, seems but just that a large part of the income received from city lots should go to the city treasury. On these grounds and others of a more technical character a gradual increase in the proportion of municipal taxation that falls on land, as distinguished from improvements and different forms of personal property, is much to be desired.

Conclusion.

The above proposals do not exhaust the land question but they serve at least to indicate some of the ways in which the land policies of the Federal Government and of American cities may be modified so as to adapt the country's land system to the economic and political conditions of the twentieth century. As these conditions change further modifications will be desirable until at length the ideal that land and natural resources, as gifts of nature to man, shall be used primarily for the advantage of the whole community, may be completely realized.

Special Franchise Taxes.

§ 309. In addition to buildings and land, the special franchises or monopoly earnings of public service corporations are a proper object of local taxation and the plan adopted by New York State of defining such special franchises as real estate, for purposes of taxation, has already been advo-

cated. No locality is warranted, however, in expecting to derive more than moderate returns from the taxation of special franchises. That such franchises have value at all indicates that the corporations enjoying them are taking advantage of their monopoly position to charge more for the indispensable services that they render than these services cost. It is the duty of the government, instead of permitting the value of special franchises to increase, to insist on lower charges even at the sacrifice of revenue to itself. Cheap water, cheap gas and electricity, and cheap transportation facilities are quite as important to the welfare of the people as the services which the municipality itself renders. It would be robbing Peter only partly to pay Paul to allow the value of special franchises to appreciate for the sake of the small proportion of the increased monopoly income that might be diverted by taxation to the general use. Even if the government received all of the increase in earnings it would still be doubtful policy to permit needlessly high charges to continue in force.

License Taxes.

A fourth source of municipal revenue is from license taxes justified on grounds explained in a previous section (Section 302). Already it is customary in several states to share the proceeds of liquor license taxes with the local governments within whose jurisdiction the licenses are held. There is every reason why this policy should be made general if the high license system should be extended as has been advocated. It would then prove an important municipal as well as state resource.

These four taxes supplemented by the other sources of local revenues described in the last chapter would, it is believed, fully meet the legitimate requirements of local governments in the United States.

Comparison of Proposed with Present System.

§ 310. In comparison with the taxes now in force in the United States the system of taxation which would result if the various changes that have been suggested were adopted would have at least the advantage of simplicity. No tax has been approved that could not be easily and accurately assessed and collected. On the other hand, large use would be made of what we have called " burdenless " taxes. When the busi-

ness community was thoroughly adjusted to the system it is believed that not only the land and special franchise taxes but also the inheritance and license taxes would impose but little real burden upon those who paid them. As one final merit it may be claimed that in assigning an important rôle to license taxes the system would serve to foster economical production rather than to stifle enterprise as business taxes are only too apt to do.

Conclusion. The proposed changes will seem quite inadequate to advocates of the single tax or other radical plans of reform. Such persons view the taxing power as the agency by means of which economic and social injustices can be redressed and have little patience with the assumptions, on which our discussion has proceeded, that vested interests are to be respected and that what is to be chiefly aimed at is a fair distribution of the burdens of taxation, not a fairer redistribution of private property. Much as the author both wishes and hopes to see a more equal distribution of property than now prevails, he cannot persuade himself that good can result from using the machinery of taxation to confiscate particular forms of property which the law has in the past protected. As time goes on it will doubtless be desirable gradually to extend the domain of public property and in so doing to encroach upon the field of private ownership. This may be accomplished either by an exercise of the right of eminent domain under which property required for a public purpose may be condemned, adequate compensation being paid to the previous owner for the loss which he suffers, or by asserting the right of the state to the exclusive use of certain forms of property or to the exclusive pursuit of certain industries. To attempt to accomplish it, however, by seizing without compensation one after another of the forms of property that it is desired to withdraw from private ownership, even if this be done under the guise of taxation, is to substitute spoliation and confiscation for law and justice. The mistakes of the past in permitting the undue extension of the field of private property should not be corrected by injustice in the present. What is rather to be insisted upon is that the lessons of the past shall be taken to heart by those charged with the ad-

ministration of public affairs so that similar mistakes shall not be repeated.

REFERENCES FOR COLLATERAL READING

**Adams,* Science of Finance; **Seligman,* Essays in Taxation and The Income Tax; **Patten,* A Rational System of Taxation; **George,* Progress and Poverty; *Shearman,* Natural Taxation; *Fillebrown,* A.B.C. of Taxation.

CHAPTER XXIX

THE LABOR MOVEMENT

Practical Application of Theory of Wages.

§ 311. The treatment of wages in the chapters on distribution was open to the charge of being unduly abstract. The assumption that competition has free play among workmen and employers involves a disregard of palpable facts and must, for many readers, have weakened the force of the conclusions that under such circumstances workmen of the same grades of capacity competing in the same labor market tend to secure the same rates of wages and that in general these rates tend to be the shares of the joint product that are economically imputable to labor as distinguished from the other factors of production. These conclusions were presented, it cannot be too strongly emphasized, not as descriptive of actual conditions, but rather as *tendencies,* to be considered in connection with actual conditions. Full weight must now be given to the undoubted truth that competition in the labor markets of the world is not free and all-sided, as assumed, but obstructed in various ways, and the extent to which we should modify our conclusions in reference to the relation between work and pay to make them true to the facts must receive careful consideration.

Disadvantages of Wage-earners in Bargaining.

The wages contract is a bargain, and when it fails to secure for labor its full competitive share of the product the cause must be sought in the unequal bargaining ability of workmen and their employers. The principal disadvantages under which workmen are placed are: First, that their labor resembles a perishable commodity in that it must be sold each day if they are not to incur loss. This circumstance often forces them to accept wages that are below their normal earning capacity and nearly always makes them more impatient to have the bargain concluded than their employers, who may, to be sure, be losing profits but are rarely haunted by

the spectre of outright destitution. For workmen tramping the streets in search of employment this ground of inequality can hardly be exaggerated. It must be remembered, however, that the typical workman in normal times is not the unemployed seeker after a job, whose unfortunate plight is so often pictured, but the man already employed, who is trying to better himself. Unemployment often forces workmen to make bad bargains, but even bad bargains may place them in a position to make better terms with their next employers. It must be remembered on the other hand, however, that unemployment may and often does continue so long as to break the spirit and lessen the efficiency of the workman and thus to cause a permanent lowering of his earning capacity. A second disadvantage results from the superior knowledge which employers usually have of the conditions which influence the wage contract. More intelligent, as a rule, and able from their position to take a broader survey of the labor market, employers can often persuade workmen to accept terms much worse than free, all-sided competition would secure for them. A third disadvantage results from the actual or tacit understandings which often restrain employers from competing freely for employees by advancing wages. There is a strong reluctance on the part of employers to "spoil the labor market," and even when they are not combined in employers' associations, as is now so often the case, this serves to make them conservative in reference to wages.

Counter-considerations.

The tendency of the above disadvantages is to render workmen inferior to employers as bargainers and to cause them to accept less than their fair share of the products they help to produce. This, it must be clearly understood, is also only a *tendency*. Any disparity between current rates of wages and the value of the product which labor is able to produce affords an inducement to employers to secure more hands. Ordinarily this motive is strong enough to overcome the reluctance which employers feel to bidding up wages, and ordinarily competition among them is sufficiently active to maintain wages even when the ignorance and inertia of individual workmen might lead them to accept less than market conditions call for. Only in cases in which the isolated workman,

who is temporarily out of employment, bargains with the unscrupulous employer is full advantage likely to be taken of the wage-earner's weakness. In the usual situation the inequality in bargaining power between employer and employee is at least partly offset by competition among employers to secure workers or by organization among the workers themselves.

An Illustration.

The force and reality of the competition among employers for workmen are proved in every period of active prosperity in the United States. As I write (August, 1912) the iron and steel industry of the country is in a highly active condition. The scarcity of workers in the Pittsburg district is so great that not only are higher wages being offered but employing agents are even paying the fines of workmen who happen to be in prison for minor offenses to secure their release and their return to the mills in which they were employed. The indications are that this activity will continue for some time and in that event a substantial increase in wages is certain to occur, notwithstanding the almost complete absence of labor organizations among the workmen affected. The increase would, however, come with even greater certainty if the steel workers were organized.

Labor Organizations in the United States.

§ 312. The purpose of labor organizations, or trade unions, is, in general terms, to advance the interests of the workmen who form them. To accomplish this they choose officers (usually a president, vice-president, secretary, treasurer and members of a standing council or executive committee), accumulate funds, administer mutual insurance or benefit features, bargain with employers in reference to wages, hours and other conditions of employment, organize and carry through strikes and boycotts, collect and disseminate information in reference to labor conditions and agitate for legislation designed to promote the interests of labor. Beginning as local organizations, trade unions have now progressed in the United Kingdom and the United States until they include federations of unions of various kinds and designed to serve various purposes. In all well-organized trades the local branches are combined or "amalgamated" into national organizations. In cities, local unions are usually organized fur-

ther into "trade councils," or "united labor leagues." Related trades, as, for example, the building trades, are frequently federated also in each locality into organizations like the "united building trades councils," designed to assist individual unions to accomplish their purposes when those are not deemed at variance with the interests of the whole body. Finally, in the United States nearly all of the important organizations, both local and national, except the railroad brotherhoods, are members of the American Federation of Labor, which stands for the general interests of organized labor.

Present Strength of Labor Organizations.

Exact statistics of the membership of American labor organizations are not available, but it is certainly within the truth to say that over 15 per cent of the 10,000,000 odd men returned by the census of 1900 as employed in trade, transportation and manufacturing and mechanical pursuits were members of unions. Of these nearly 1,000,000 were associated with the American Federation of Labor. A careful estimate places the number of paid-up members of trade unions in the United States on January 1, 1912, at 2,162,926, of whom 1,761,835 were credited to the American Federation of Labor. The membership of the British trade unions is relatively larger, being returned as 3,010,346, on January 1, 1912. This is due partly to the fact that labor is there more fully organized and partly to the greater preponderance of wage-earners in the population.

History of British Law with Reference to Organizations.

§ 313. The development of trade unions to their present position of power and influence in the United Kingdom and the United States constitutes an interesting history. In the United Kingdom at the beginning of the nineteenth century labor organizations were criminal conspiracies under both common and statute law. The statutes expressly prohibiting them were repealed in 1824-25, but it was not until the early seventies that they acquired an assured legal position. It was long believed that under the Trade Union Acts then passed (1871 and 1876) they were not liable to suits for damages for the tortious acts of their officers or members. This view was declared erroneous by the highest British court in the famous Taff Vale decision (1901), in consequence of which

damages and costs to the extent of nearly $250,000 were assessed against one of the railroad brotherhoods. This decision led to active efforts on the part of trade unionists to have labor organizations expressly exempted by act of Parliament from liability to suits for damages. In the general election of 1906 as many as fifty-seven labor representatives were returned to Parliament and, largely as a result of their agitation, a Trades Disputes Act was passed in the same year which relieved organizations of both employers and employees from liability to suits for damages for acts committed in connection with trade disputes. As the Conspiracy and Protection of Property Act of 1875 had already declared that no act in connection with a trade dispute which was not criminal if committed by an individual should be actionable as a conspiracy because committed by two or more persons acting in combination, trade unions now enjoy a higher degree of freedom from legal restraint in the United Kingdom than in any other country.

The Law in the United States.

§ 314. The development of labor organizations in the United States has not been checked to any appreciable extent by legal restrictions. Strikes for the purpose of advancing wages or shortening hours have rarely been held to be illegal, and in many of the states they are expressly authorized by statute. In fact, the attitude of state legislatures has been uniformly favorable to labor organizations, some of them even going to the length of prohibiting employers from discharging employees on the ground that they are members of such bodies. Strikes for other purposes, as, for example, to compel an employer to reinstate a discharged employee or to discharge an employee who is not a member of the union, have sometimes been condemned as conspiracies. The opposition of the courts in such cases has been based not on hostility to labor organizations as such, but on a desire to uphold the rights of persons who are not members of them. Thus the Court of Appeals of New York State, in branding as a conspiracy the effort of a union to secure the discharge of a non-union man, used the following language: "Public policy and the interests of society favor the utmost freedom in the citizen to pursue his lawful trade or calling, and if the purpose of

an organization or combination of workingmen be to hamper or restrict that freedom, and through contracts or arrangements with employers to coerce other workingmen to become members of the organization and to come under its rules and conditions, under the penalty of loss of their position and of deprivation of employment, then that purpose seems clearly unlawful and militates against the spirit of our government and the nature of its institutions." This decision is cited because a few years later the same court, looking at the same question more from the point of view of trade unions, decided that a strike for a similar purpose was lawful, on the ground that the object sought was not the injury of the non-union employee, but the preservation of the union.* This virtual reversal of opinion illustrates fairly well the difficulties which American courts encounter in their efforts to apply the common law of conspiracy to labor cases and explains why they arrive at such diverse conclusions as are shown by the authoritative decisions of the courts of the different states. It would be a great gain if the whole question of the nature of conspiracy in connection with trade disputes could be clearly defined by statute in the United States as it has been in the United Kingdom.

Organizations Now Liable to Damage Suits.

Until quite recently the view that unincorporated labor organizations were not liable to be sued for damages was held in the United States as in the United Kingdom, but the English decision cited has already been quoted with approval by American courts, and several cases are now on record in which labor organizations as such have been sued and verdicts against them awarded. Whether these verdicts will lead to successful agitation by trade unionists to have the American law altered as the British law has been by the new Trades Disputes Act remains to be seen. It seems very clear to the writer, however, that labor organizations, like other combinations, should be subject to some sort of legal control. If relieved from financial responsibility—and much is to be said in favor of this plan—they should be made sub-

* These decisions are: Curran *v.* Gallen, 152 N. Y. 33 (1897), and National Protective Association *v.* Cummings, 170 N. Y. 315 (1902).

ject to administrative supervision and regulation as proposed in a later section (Section 317).

Collective Bargaining.

§ 315. Intelligent unionists rely chiefly upon collective, as distinguished from individual, bargaining to secure the advances in wages and the shortening of hours for which they are always striving. Recognizing the weakness in bargaining power of the isolated workman, they advocate trade unions as a means of restraining reckless competition for employment and of securing for all concerned standard rates of wages which shall equal approximately what each given grade of labor is worth to employers. Where employers accept the plan, wage scales are agreed upon by conference between their representatives and representatives of the union, to remain in force usually for a year, and the principal task of union officials during the intervals between bargaining periods is to maintain the integrity of their unions, add to their membership if possible and see that agreements in reference to wages and hours are lived up to. In the United States this stage of development has been reached in only a few trades. In most of them employers still insist upon the older method of fixing wages and the unions are forced to carry on a struggle for their very existence.

Objections of Employers.

The objections which employers make to collective bargaining are various. Many of them insist that they must be permitted to manage their businesses in their own way and that, while they are always ready to treat with their own employees, they will have nothing to do with "walking delegates" or other trade-union officials who "try to run their businesses for them." The trade-union reply to this contention is that wages and hours are as much the business of the employee as of the employer, and that if workmen prefer to leave their side of the negotiations which determine them to trained representatives they have as good a right to do so as have employers to hire special employing bosses to treat with the men they hire. Other objections are that the demands of trade-union officials become more and more unreasonable with every concession that is made to them, and that even after a collective bargain has been struck the employer has no guarantee that it will be adhered to by his employees,

who may repudiate their own representatives. Unionists reply that while there are doubtless all kinds of officials among trade unions, as among other associations, the acceptance by employers of the principle of collective bargaining is a sure way of bringing to the front labor leaders of a conciliatory and pacific disposition. They point to the undoubted fact that in those trades where collective bargaining has been longest practised there is the least dissatisfaction with it on the part of employers. The likelihood that collective bargains, formally entered into, will not be adhered to by employees is, in the opinion of the unionists, much more remote than employers represent. Only in cases in which the system is backed by a weak union, or so recently adopted as not to be understood by the workmen concerned, is this a real danger. Finally, employers object to the standard wage on the ground that it is a device for securing a given rate of pay irrespective of the amount or quality of the work done. They complain that as soon as a standard wage is agreed upon employees begin to devise means of scamping their work, partly to spare themselves effort and partly in the belief that by doing less work themselves they will provide employment for others, who must, without it, either be idle or work for less than the standard wages. This is, doubtless, the most serious objection to the standard wage, but trade unionists have much to urge on the other side. They insist, first, that the objection can apply only to time wages and that, as a matter of fact, piece wages are often the object of collective bargaining; second, that the standard wage is only a minimum wage and that there is nothing to prevent the employer from declining to hire men whose work is not worth so much to him, nor from paying higher wages to men whose work is worth more; finally, that under the competitive wage system employers tend to drive their men so hard that they become prematurely old, and that employees are, therefore, justified in using the power that association gives them to moderate somewhat the intensity of their daily efforts.

Conclusion.

It is very difficult to strike a balance between these opposing arguments. There is, undoubtedly, a widespread notion among workmen that there is a certain amount of work to

be done in the world and that unemployment is due to the fact that this work will not go around so long as those employed continue to labor with the same intensity. It is hardly necessary at this stage to insist that this view that men may make work for others by doing less themselves is entirely fallacious. The amount of work that is to be done depends upon the demand there is for goods of different kinds, and this demand comes itself from goods. Thus, if in every department of industry the productiveness of labor should be reduced by ten per cent the demand for labor would necessarily decrease in somewhat the same proportion. The same conclusion may be inferred from the theory of wages that has been explained. Under freely competitive conditions they are the equivalent of what labor produces, and if workmen deliberately reduce their productiveness their wages must be reduced proportionately. There is no fund other than what workmen produce out of which wages can or will for any length of time be paid. The make-work argument for curtailing the output of each man's toil is thus without foundation, and the policy can only react to the disadvantage of the whole wage-earning class. On the other hand, there is undoubted truth in the assertion that employers often desire workmen to labor with an intensity that wears them out in a few years, and that their best interests and the interests of society demand that they should work with more moderation. When this is the real purpose of trade unions in curtailing the output of each man's labor, the policy is justified, even though it may involve in the long run a proportional lessening of wages. Smaller daily earnings spread out over a greater number of active and efficient working years are better from every point of view than higher wages secured at the cost of health and vitality.

Strikes and Lockouts.

§ 316. When employers decline to enter into collective bargains, or when the representatives of a trade union cannot come to terms with the representatives of an employer, a strike or lockout is apt to be the result. The strike is a general cessation of work on the initative of the workmen; the lockout a similar stoppage brought about by employers. Strikes and lockouts seem at first thought the logical accompaniments of

collective bargaining. When a single workman cannot secure the wages or hours he thinks he ought to have he declines to accept employment. Similarly, an employer refuses to employ on terms that are not agreeable to him. Strikes and lockouts appear to be the same phenomena transferred to the larger stage of collective bargaining. There is, however, a vital difference in the two cases. When a workman declines employment or an employer refuses to employ, it is usually with the expectation of making better terms with some one else. This alternative is not usually presented in the case of strikes and lockouts. The cessation of work which they cause is often complete until one side or the other gives in, when work is resumed by substantially the same men under the same employer. Strikes and lockouts thus mean, while they last, idleness and loss of earnings, with all of their demoralizing consequences, for workmen; idle capital, depreciation of plant and loss of business for employers, and curtailed production of goods and resulting loss in want gratification for the community. Even if they are not accompanied, as is so frequently the case, by acts of violence and lawlessness, they are the cause of loss and waste on a scale that makes them a serious obstacle to prosperity. A significant illustration of the costliness of strikes was afforded by the Report of the Commission on the Anthracite Coal Strike of 1902. This estimated that this one strike, which lasted from May until October, involved a loss in receipts to the coal-mining companies of $46,100,000, of which some $25,000,000 would have been paid out in wages had work been continued, and a loss in freights to the coal-carrying railroads of $28,000,000. The inconvenience and actual suffering to which the public was put by the resulting shortage in coal cannot be measured in money, but it was certainly as serious as the other losses combined.

Anthracite-coal Strike of 1902.

The anthracite-coal strike illustrated also the evils of violence and lawlessness which frequently accompany strikes. In the language of the Commission referred to: "Its history [was] stained with a record of riot and bloodshed, culminating in three murders, unprovoked save by the fact that two of the victims were asserting their right to work, and another,

as an officer of the law, was performing his duty, in attempting to preserve the peace. Men who chose to be employed, or who remained at work, were assailed and threatened, and they and their families terrorized and intimidated. In several instances the houses of such workmen were dynamited, or otherwise assaulted, and the lives of unoffending women and children put in jeopardy." Nor were violence and intimidation the only means resorted to by the strikers and those who sympathized with them to prevent others from remaining at work. Free use was made of the "boycott," which the Commission defines as "a form of coercion by which a combination of many persons seek to work their will upon a single person, or upon a few persons, by compelling others to abstain from social or beneficial business intercourse with such person or persons."

Reasons for Violence, Intimidation and Boycotting.

The violence, intimidation and boycotting which accompanied the anthracite strike, differed only in degree from what is to be expected in connection with every serious labor disturbance and constitute a strong argument against the strikes and lockouts which incite them. They are especially apt to occur, for, as the Anthracite Strike Commission pointed out, "there can be no doubt that without threats, intimidation and violence toward those who would otherwise be willing to remain at work, or take the places of those who had ceased to work, the coercion of employers, which a strike always contemplates, would be less potent in compelling acquiescence in its demands." Such acts are, of course, illegal, but in self-governing communities it becomes very difficult to enforce the law when the sympathies of the majority are on the side of those who disregard it. Over and over again in the United States it has proved necessary to call out the militia to prevent riot and bloodshed in connection with strikes which have passed beyond the control of the civil authorities.

Plans for Avoiding Strikes:

§ 317. Among the plans for rendering strikes and lockouts unnecessary, three different types may be distinguished: (1) those which rely on agreements between employers and employees to submit differences to boards of arbitration created by themselves; (2) those which rely upon the submission of

disputes to state boards of conciliation and arbitration and the voluntary acceptance of the awards of these boards; (3) those which rely upon compulsory arbitration through state boards or courts.

Trade Arbitration.

Trade agreements providing for arbitration when collective bargaining fails of its purpose are already common in Great Britain and to a less extent in the United States. After a protracted strike or lockout both employers and employees usually recognize the desirability of some arrangement that will preclude similar disturbances in the future and out of this feeling some plan for arbitrating differences is very apt to develop. Such plans are highly beneficial so long as they accomplish their purpose, but experience seems to indicate that they can only deal with minor differences between employers and employees. When important issues arise on which the views of the two are diametrically opposed, the compromise which is suggested by a board of arbitration may be acceptable to neither. In such cases both may prefer to fight it out in the old way.

Voluntary Public Arbitration.

Experience with the failure of trade agreements to supersede strikes and lockouts has led most countries to provide public boards of conciliation and arbitration. These may be purely voluntary bodies dependent upon the invitation of one or both of the parties to the trade dispute for power to take any part in it, or independent to the extent that they may investigate the causes of a dispute and decide as to its merits, although unable to compel the parties concerned to accept the decision or refrain from fighting it out in their own way if they prefer. The first type of board was that first tried in the United States, but it was soon made clear that in a great majority of cases neither party to an industrial dispute cares to submit it to arbitration before it has passed beyond the point where a peaceful settlement can be effected. This conviction has led to the creation in the United Kingdom and in several of the states of the United States of boards of conciliation and arbitration which have power to investigate the causes of industrial disputes on their own initiative. There seems reason to think that much more might be done along this line in the United States. In a great majority of cases

the outcome of a labor dispute is determined by the view which the public takes of the points at issue. This is because neither side is strong enough to hold out against the other plus the public. The great difficulty is that without some means of self-education the public can become acquainted with the grounds for a labor dispute only after it has gone too far for peaceful settlement. A state board of conciliation and arbitration with power to intervene on the instant that it learns of a labor dispute may at times succeed in effecting a settlement by simply bringing the parties together and suggesting possible bases of agreement, at the same time that it removes misunderstandings and assuages wounded feelings. Failing in this it may, by making its findings in the case public and indicating clearly the settlement which appears to it fair, bring such pressure to bear upon the less conciliatory disputant that a compromise will seem better than a fight and a prolonged strike or lockout will be avoided. Thus, although without power to enforce its award, a state board of conciliation and arbitration may often prevent strikes and lockouts.

Compulsory Investigation Advocated.

The chief justification of government interference to settle a labor dispute is that the public interest is always more or less involved and that for the sake of the public no effort should be spared to preserve industrial peace. It was on this ground that the President of the United States intervened in the anthracite-coal strike already referred to. In its Report the Commission, which he created, declared that it had been impressed by "the apparent lack of a sense of responsibility to the public at large, manifested by both operators and mine workers, in allowing the controversy between them to go to such an extent as to entail upon millions of their fellow-citizens the cruel suffering of a fuel famine." In its opinion, it continued, "the questions involved in [that] controversy were not of such importance as to justify forcing upon the public consequences so fraught with danger to the peace and good order as well as to the well-being and comfort of society. If neither party could have made concessions to avoid a result so serious, an arbitration would have prevented the extremity which was reached." To secure such a result in future the Commission recommended that the President and the gov-

ernors of the various states be given power to appoint "commissions of compulsory investigation" whenever industrial disputes appear to them of sufficient importance to justify such a course and that such commissions be clothed with ample powers to enable them to collect all requisite information and decide intelligently as to the merits of the controversies. The utility of such commissions of compulsory investigation cannot be doubted, and it is to be hoped that the recommendation may be followed by Congress and the state legislatures.

Compulsory Arbitration.

§ 318. In the United States, notwithstanding the disregard of the public interest so characteristic of both employers and employees during the progress of industrial disputes, there is as yet little demand for any more radical remedy than compulsory investigation. Nevertheless, the experiments that are being tried in Australasia with "compulsory arbitration" deserve to be watched with attention. The same forces that have led all countries to put a stop to civil strife and insist that citizens who cannot agree shall bring their troubles into court rather than fight over them, may in time cause the adoption of a similar policy in reference to industrial strife. If, as many competent witnesses maintain, strikes and lockouts can be entirely superseded by compulsory arbitration without detriment either to employers, employees or the public, the adoption of the system of compelling the parties to industrial disputes to submit their differences to authoritative arbitration by all progressive countries is likely to be a question only of time and occasion.

The New Zealand System.

The pioneer in the field of compulsory arbitration was New Zealand, whose first law making strikes and lockouts misdemeanors was passed in 1894. Experience has led to the repeated amendment of this law, but never in the direction of curtailing its scope or relaxing the penalties applying to those who, in violation of its provisions, interrupt the normal course of industry. The form given to the system by the important amendment added in 1908 was as follows: In order to come under the act at all the workers, at least, and the employers, if they take the initiative in the dispute, must be organized into "industrial unions." Any fifteen or more employees or any three or more employers or an incorporated company

may form such a union. The official charged with granting charters to such unions, however, may require the entry of applicants into unions already established to prevent their needless multiplication. The normal procedure for employees or employers organized in industrial unions, in case a dispute arises, is to seek the assistance of the " commissioners of conciliation," three of whom are appointed by the governor for the whole country. Thereupon it is the duty of one of these commissioners to proceed forthwith to the scene of the dispute and to use his best efforts to bring about a settlement. If his individual efforts prove unavailing he must then organize a " council of conciliation " by asking each side to appoint the same number of " assessors " to serve with him as a conciliation board. This council reviews deliberately all of the issues involved in the dispute and decides upon the solution that seems to it to be just under all of the circumstances. If either side refuses to accept this solution, appeal from it may be taken to the " court of arbitration." This is a very important tribunal. Its presiding officer must be a judge of the supreme court and its other two members representing employers and employees, respectively, are appointed by the governor from names proposed by all of the associated industrial unions of the country. Although ranking just below the supreme court, the court of arbitration conducts its operations with little regard to the traditional limitations on judicial procedure as to rules of evidence, etc. It endeavors in the simplest and most direct manner to get at the essential facts and has full powers to subpœna witnesses, examine books, etc., for this purpose. Taking the decision of the council of conciliation as a basis, it arrives at its own formal award, from which there is no appeal and which becomes binding on all of the disputants for the period named in the award itself, usually three years. This award may be extended to embrace other employees or employers in the same trade in the same locality, or even in the whole country, at the discretion of the court. For any one to whom it applies to participate in a strike or lockout to secure a change in the conditions which it has prescribed is a serious offense. Heavy fines for violation are imposed and these are made effective against wage-

earners by the proviso that they shall stand as a first lien against their *future* wages until they shall have been paid. As a result of this system, now in operation for nearly twenty years, nearly every trade in which industrial disputes are likely to arise carried on in New Zealand has become subject, as regards wages, hours and the other conditions of employment, to stipulations laid down in the decisions of the Court of Arbitration. The system has thus not only put a stop in large measure to strikes and lockouts, but has made the relations between employers and employees subject to judicial determination to an extent that can only be compared with the results of Elizabethan legislation in the England of the sixteenth century. The vital difference, however, is that the legislation of Elizabeth was largely for the benefit of employers; that of New Zealand is largely for the benefit of the workers.

Other Experiments.

The seeming success of New Zealand's experiment induced New South Wales to adopt the system of compulsory arbitration in 1902. Western Australia had adopted it a year earlier, and in 1904 a federal compulsory arbitration law was enacted for the whole commonwealth of Australia. The system of New South Wales differed from its model in that it provided no local boards of conciliation, but required the reference of all disputes to the central Court of Arbitration. It also requires that the awards of the latter should apply not merely to the disputants, but to the whole trade which they represented. Thus the result which was achieved somewhat unexpectedly in New Zealand, that is, a comprehensive labor code to govern the relations between employers and employees throughout the whole country, was deliberately aimed at by New South Wales. This code is subject, of course, to modification through the law-making power, but, with the labor legislation considered in the next chapter, it sets very definite limits to free competition and free contract as regulators of industrial relations. Compulsory arbitration is still in the experimental stage and too novel to be judged either a failure or a success, but it certainly merits the consideration of all countries interested in the solution of the strike problem.

§ 319. Experience with the violence and disorder which so

The Use of the Injunction in Labor Disputes.

frequently accompany strikes has led in the United States to the free use of the judicial process called "the injunction." This was developed by English courts of equity as a means of preventing irreparable or continuing injuries to property for which, from the nature of the particular case, if the injury were permitted to occur, no adequate damages could be secured. The peculiarity about the process is that when a court issues an injunction, violation of its order becomes in effect contempt of court and exposes the guilty person to such punishment as the court itself may decree. The ordinary protections accorded to criminals, such as trial by jury and the right to be represented by counsel, are set aside, and the offended tribunal becomes itself prosecutor, judge and jury all in one. The inevitable tendency of the system is to deprive trials in injunction cases of that judicial temper which should characterize the relation between a court and an accused person, no matter what his offense.

Legal Justification.

The applicability of the injunction process to labor disturbances is very clear. Workmen on strike are very apt to commit acts of lawlessness which involve the destruction of property and the interruption of business. Moreover, they are usually irresponsible persons in the sense that it would be impossible by means of a civil suit for damages to secure full redress after the injury had been inflicted. On these grounds courts readily issue injunctions to restrain workmen from doing illegal acts which involve the destruction of property. Injunctions have even been issued ordering workmen not to strike, on the ground that strikes interrupt business and cause loss, but the best authority gives no countenance to such use.

An Example.

From being express orders to designated individuals to refrain from doing specified acts, injunctions have developed in the United States into sweeping commands to an indefinite number of persons ordering them not only not to do specified things, but to refrain from lawless acts in general. Thus, in the famous Debs case, growing out of the Pullman strike of 1894, an injunction was issued by a circuit court of the United States to members of the American Railway Union and "all other persons whomsoever," enjoining them from

in any way interfering with the business of twenty-three great railway systems. The justification for such comprehensive injunctions is that when a serious strike is in progress it is impossible to know in advance what particular individuals will be moved by the passions of the moment to commit lawless acts or what particular acts will be committed. Since the injunction never, in theory, prohibits any but unlawful acts it is argued that its issue can inflict no injury on law-abiding citizens.

Objections to Such Use.

If the law in reference to what may and what may not be lawfully done in connection with a strike were clear and definite, this justification would be convincing. But unfortunately in the United States, as has already been pointed out, the law is neither clear nor definite. "Violence," "intimidation," "conspiracy," the phrases habitually used to designate the lawless acts likely to be committed by strikers, are differently defined in different jurisdictions. Under these circumstances some courts will issue injunctions to restrain acts which to other courts do not seem to justify resort to this extraordinary remedy; some judges will punish for contempt of court for acts which others would not deem to fall under the phrases which they all agree in using. Even more serious, as a reason for the opposition of American wage-earners to the injunctive process, is the conviction impressed upon them by the language used in judicial decisions, that American courts fail to balance fairly the personal rights at issue in industrial disputes. In endeavoring to protect the property interests of employers they are charged with overlooking the personal rights of employees. In jury trials these personal rights receive due consideration and for this reason deprivation of the right to trial by jury in contempt cases seems to workmen a peculiar hardship.

Remedies Proposed.

To the writer the remedy for this situation appears to be, not the abolition of the injunctive process in connection with labor disputes nor its serious modification, since its efficacy as a means of preserving law and order when other means fail has been abundantly demonstrated, but the education of judges to a more sympathetic appreciation of *all* the rights involved in labor disputes and the clear formulation in statute

law of the acts in connection with such disputes that are unlawful. To these reforms should be added a distinction between contempts of court committed in the presence of the judge and those committed outside of the courtroom. As to the last the admission of the rights to counsel and to trial by jury would seem to involve no serious danger to judicial dignity. It is a noteworthy fact that in the United Kingdom, where the law in reference to strikes is clear and definite, although the British courts employ injunctions as freely as do our own, " government by injunction " is not complained of by the British labor press, much less made a political issue by the Labor Party.

The Influence of Trade Unions on Wages.

§ 320. The theory of wages that has been explained in these pages is that under conditions of free, all-sided competition workmen will tend to secure wages corresponding closely to the additions their labor makes to the value of the product. We have now to inquire what effect the presence of trade unions has upon the operation of this law. Do they serve merely to equalize conditions between employers and employees so that the competition between them is really freer because fairer, or do they introduce an element of monopoly on the side of labor which enables workmen to secure more than free competition would bring to them? In the opinion of the writer their influence in all but exceptional cases is confined to the first effect. In most trades in the United States there are both union and non-union men seeking employment. Unionists are striving constantly to induce non-unionists to unite with them in the effort to secure better terms from employers, but because of selfishness, short-sightedness, indifference, or some other reason, there are always some workers who refuse to do so. As a consequence of this situation there is a source of supply on which employers may draw for their labor in case of emergency, which the unions are unable to control. The competition for employment of this unorganized labor sets a limit to the influence which the unions can have upon wages. The very best they can do for their members is to secure for them the full competitive rate. If they try to secure more employers will refuse to employ all of them, defections to the ranks of the non-unionists will occur,

and the competition for employment of these non-unionists will break down the standard rate. On the other hand, if they follow their own interest intelligently they can secure not only for their own members, but for all the workmen in the trade, approximately the full competitive rate of wages. Representative employers can afford to pay this and will do so if their ability in bargaining is matched on the other side. The services the unions perform in securing this result may be summarized under the following heads: (1) they are organized to resist unfair terms and to cause loss to the employer who attempts to cut wages below the fair competitive rate; (2) they keep workmen informed as to the rates that are actually paid and in this way protect them from making bad bargains through ignorance; (3) they inform themselves in regard to general market conditions and force employers to advance wages when conditions are favorable, more promptly than they would without such pressure.

Open Unions Not Monopolies.

This account of the influence of trade unions fails to consider trades in which all or practically all workmen belong to unions. Such trades are, as stated, rare in the United States and even in the United Kingdom, but that makes them no less interesting, since they represent the type whose realization is the goal of trade unionists' efforts. The influence of the unions on wages in such trades depends upon their policy in reference to the admission of new members. This policy is controlled in most factory employments by the ease with which the tasks to be performed can be mastered. When, as, for example, in the textile trades, no long apprenticeship is necessary, the unions must admit every one to membership whom employers will hire, on pain of losing control over the industry. When a union is open in this way to all comers the rate of wages which it can secure for its members cannot exceed the competitive rate for workmen of the given grade of skill. If it did employers could not afford to hire all of the members of the union. The unemployed would become dissatisfied and either leave the union or force it to lower the standard rate until the demand should absorb them as well as their more fortunate fellows. In either event the standard rate would be brought to correspond closely to the competi-

tive rate, as it was by the competition of non-unionists in the previous case.

Closed Unions May Be Monopolies.

§ 321. There are some trades in which the unions control practically the entire labor force and in which conditions permit the use of such control as a means to securing monopoly earnings. These are trades in which a long period of apprenticeship is necessary to the mastery of the tasks to be performed or in which legal obstacles, such as the requirement of a certificate of proficiency as a condition to engaging in the trade, prevent any sudden increase in the number of master-workmen. When a trade union becomes strong enough in a trade of this type to limit the number of apprentices, or to determine the period of apprenticeship or the severity of the examination necessary to entrance to the trade, it may exercise effective control over the supply of competent workmen. By limiting such supply it may secure a virtual monopoly for its members and advance their wages to any point which the demand for their services permits. The management of such a monopoly calls, of course, for tact and skill because it has to contend with the opposition of other workmen who would like to learn the trade and are prevented from doing so, with the opposition of employers who object to paying such high wages and with the opposition of the consuming public which objects to paying high prices for the products of the labor monopoly. Nevertheless, such monopolies have existed and do exist, and the realization of them is the deliberate purpose of many trade unionists. That such labor monopolies are as much open to public condemnation as any other species of monopoly not controlled in the general interest seems to the author too clear for argument. Unions which make such control of the labor supply in their trades the object of their efforts and seek to realize it by limiting the number of apprentices, charging exorbitant initiation fees, refusing to work with non-unionists and using every means from strikes to intimidation and violence to prevent non-unionists from gaining a foothold in the trade, must expect to meet the same criticism that is leveled against the trusts and other would-be monopolies. All of these policies, except intimidation and violence, are defensible as means to main-

taining standards of workmanship and standards of pay proportionate to earnings in other trades. None of them is defensible as a means of preventing ambitious and competent men from mastering the trades concerned and deriving the same benefits from their energy and enterprise as do those already in the trade.

Other Purposes of Trade Unions: Mutual Insurance.

§ 322. In addition to the purposes that have been considered trade unions have other objects that deserve commendation. Many unions, especially those in skilled trades, act as mutual insurance associations for their members. By providing unemployment, sick, death and other benefits they render a valuable social service. But perhaps the most important aspect of their work is the educational. By bringing their members together to discuss questions of common interest they do a great deal to make them more intelligent and broader in their insight into economic and political problems. The experience which workmen get in managing their unions helps them to appreciate the importance of organization as a condition to success and also to perceive the value of the industrial service which their employers render. In the same way the accumulation and administration of the funds which they collect gives them clearer notions in reference to the origin and service of capital. From these facts it results that leading trade unionists are apt to be men of unusual ability, whose views on the labor question are constructive rather than revolutionary, and who, in the absence of personal prejudice, command the respect and esteem of employers almost as much as of their fellow workmen.

Industrial Democracies.

The most important book dealing with trade unions in the United Kingdom that has yet appeared bears the significant title, "Industrial Democracy." This makes prominent another service which trade unions render. As miniature democracies they reproduce on a smaller scale the self-governing states on whose success the future of civilization so largely depends. Their members learn in them how to give way when they cannot persuade, how to sacrifice smaller for greater ends and in general how to defer without rancor to the opinions and prejudices of others—qualities which are essential to the successful working of democratic institutions.

The authors of the work referred to, Mr. and Mrs. Webb, conclude that trade unions are preparing the way for the great coöperative commonwealth or socialistic state which they think is in process of development. Whether they are right in this anticipation or not, there can be no question of the value of membership in a trade union as training for useful citizenship.

Labor Legislation.

Still another service rendered by trade unions is in connection with labor legislation. Through their very position trade unionists are led to perceive the need for labor laws before it is appreciated by the whole community. Again and again in the United Kingdom and the United States their agitation has secured the enactment of beneficent labor regulations. It would be exaggerated praise to ascribe to them all the progress that has been made in this field, or to maintain that they have not at times agitated for bad as well as for good labor laws; at the same time trade unions deserve more credit than any other single agency for what has been accomplished.

Public Policy Advocated.

§ 323. Thus far the history of the labor movement in the United States has been the history of the spontaneous efforts of wage-earners to help themselves through organization. Trade unions have been allowed to grow up and have even at times been encouraged by special laws protecting their union labels and facilitating their incorporation, but little or nothing has been done in the direction of subjecting them to legal regulation. If the analysis of the services rendered by trade unions and the excesses of which they may be guilty which precedes is accurate, it is desirable that the state assume a more positive policy toward them. Their monopolistic tendencies should be curbed. Effective measures should be taken to make it to their interest to preserve law and order during industrial disputes. Finally, unions which are both non-monopolistic and law-abiding should be encouraged by the grant of special privileges. It would take too long to outline an adequate program of trade union regulation, but certain features of such a program may be indicated. The only means by which a trade union can maintain a labor monopoly is by restricting its membership through unreasonable apprenticeship, entrance fee or examination rules coupled with agreements

with employers which confine employment to union members. Trade unions might be prohibited from making or enforcing such unreasonable restrictive rules and brought under the supervision of some officer or commission, charged with the task of seeing the prohibition enforced. By these means close, monopolistic unions might be rendered impossible. With all unions open, " closed-shop " agreements, which now seem unfair and oppressive, take on a very different aspect. Should there be objection to entering at once upon a full-fledged program of trade union regulation, the policy might be introduced by confining the protection which the law extends to trade union funds to those whose rules guarantee admission to membership to all respectable and competent workers in the trade. Such unions might be allowed to register under a designated state officer on having their rules approved by him, and might, as registered unions, enjoy privileges not extended to non-registered bodies. To check the tendency of unions to participate in, or to condone, acts of lawlessness in connection with trade disputes, it might be provided that persons convicted of such acts of lawlessness should be immediately suspended or expelled from the unions of which they were members, or, under the second plan, from registered unions on pain of forfeiture of the privileges attached to registration. In either of these ways the present lack of any certain means of distinguishing between good and bad unions might be remedied and a situation created much more favorable to the realization of those trade union ends which harmonize with the general interests of the community.

The Industrial Relations Commission.

That the present relations between employers and employees in the United States are unworthy of a civilized society will be questioned by no one after the revelations brought out at the trial of the McNamara brothers in 1912. The career of dynamiting the property of hostile employers in which they and their confederates were engaged was provoked by the attitude of uncompromising hostility of these employers toward labor organizations, which was all the more indefensible because the employers, to make their hostility effective, were themselves strongly organized. Satisfactory relations between employers and employees can only exist on the basis

of a frank and straightforward recognition by each of the rights of the other. Wage-earners have a perfect right to organize. In fact, without organization they must be at a great disadvantage in bargaining with employers. Employers have an equal right to organize, but they have no right to use the power so gained to compel employees to enter into individual wage-contracts. Their organizations should be prepared to treat with employees' organizations, for the purpose, on the one hand, of entering with them into fair and reasonable collective wage-agreements, and, on the other, of opposing any unfair or unreasonable demands which they may present. Unfair demands will, doubtless, be made, but employers who attempt to meet these by "smashing the union" are sowing the wind to reap the whirlwind. The conviction that the present situation is a menace to the peace and prosperity of the whole country has led Congress, on the recommendation of the President, to create (1912) a Commission on Industrial Relations, whose report should do much to educate public opinion on this important problem.

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CHAPTER XXX

LABOR LEGISLATION

Reasons for Labor Legislation.

§ 324. The *laissez-faire,* or non-interference, policy, which was substituted for the policy of legal restriction in the United Kingdom during the first half of the last century, has been from the first subject to one important exception. It has never been allowed to include fully the relations between employer and employee. Reasons for this exception were suggested in the last chapter, but they must now receive more careful consideration.

In Case of Children.

Unorganized workers do not bargain on terms of equality with employers. That this is the case when the workers are children will scarcely be questioned by any one. Employers of such labor stand to it in a relation half paternal and have it in their power to make or mar the young lives that are devoted to their service. To protect children from the rapacity and cruelty of unscrupulous employers labor laws have been found necessary in every civilized country.

In Case of Women.

It is generally, although not universally, conceded that protective labor laws ought to extend to women as well as to minors. Such extension is defended by those who think that the activity of women should be confined so far as possible to the domestic circle, on the ground that women are unfitted for the rough and tumble of industrial competition, and if permitted to work for wages at all, should do so on conditions marked out for them by law. A reason more certain to command general assent is the simple fact that women wage-earners have not yet learned to organize unions or to protect themselves in other ways and are, therefore, more often the prey of grasping employers when the law fails to protect them than are men.

In Case of Men.

If the second of the above grounds be accepted as a justification for laws protecting women wage-earners, there seems

no reason why such laws should not be extended to men in those trades in which they do not bargain on equal terms with their employers. This view has, as we shall see, found expression in many countries in connection, especially, with legislation affecting the so-called sweating trades.

Another reason for protective labor laws, than inequality in bargaining power between employers and employees, is the ignorance and carelessness of wage-earners. Ignorance often leads workmen to assume risks and undertake tasks on terms that they would not with full knowledge accept. Once committed, the inertia that is characteristic of all men prevents them from repudiating their bargains. Carelessness is an even more common cause of contracts of employment that are socially undesirable. This is conspicuously the case in dangerous trades. The natural optimism of workmen leads them to feel that whatever the dangers may be, they themselves will escape. The result is that they accept risks, even certainties, of disease and death on terms that compensate neither them, their families nor society at large for the waste of life which such employments entail. It is on this account that special legislation in reference to the conditions of employment in dangerous trades has been found necessary, and on it also are based the laws in reference to employers' liability for injuries to their employees and industrial insurance that are discussed in Chapter XXXII.

In drafting protective labor laws the end to be held constantly in view, it is hardly necessary to add, should be the good of the whole community. This should be conceived in no narrow spirit, but should take full account of the effect of restrictions on slowly evolving society. A temporary benefit should not be preferred if its result is likely to be the conservation or encouragement of an undesirable type of person, nor should temporary inconvenience or loss be shunned if its long-run result is likely to be advantageous.

Labor Legislation in the United Kingdom.

§ 325. The history of labor legislation in the United Kingdom is instructive on many accounts. No country has gone further in its adoption of the *laissez-faire* policy as regards other industrial relations and in none have the successive steps in the development of the comprehensive law which now pro-

tects not only children and women, but adult men, been so vigorously opposed or finally passed on the basis of such careful study of actual conditions.

In the United States.

The United States has been much influenced by British legislation in this field and a comparison of the labor laws of the two countries shows that time and again British laws have served as models for the regulations drafted by American legislatures. At two points, however, there have been important differences. In the United States labor relations have been objects, for the most part, for state rather than national legislation, and here this legislation, unlike that of the British Parliament, has always been subject to judicial review. As interpreted by the courts both the state and the federal constitutions guarantee freedom of contract and immunity from special or class legislation. These guarantees are not absolute. All authorities agree that they may be set aside in the exercise of the state's " police power " when the purpose is to protect the public safety, health or morals, or even to advance the general welfare, and when the proposed legislation is reasonably calculated to accomplish these objects. Unless a labor law can be justified on these grounds, however, it will be declared unconstitutional.

The Constitutionality of Labor Laws.

A study of American decisions in cases involving labor laws is well calculated to confuse even the legal mind. There is scarcely a regulation, from a restriction on the payment of wages in company store orders to the provision that men may be employed no more than eight hours a day in specified industries, that has not been declared unconstitutional in certain sections of the country, only to be upheld as a legitimate exercise of the police power in others. The Supreme Court of Pennsylvania characterized an act prohibiting the payment of wages in orders on a company store as " utterly unconstitutional and void " and went on to say that it represented " an insulting attempt to put the laborer under a legislative tutelage, which is not only degrading to his manhood, but subversive of his rights as a citizen of the United States," and yet similar measures have been upheld in several of the other states as proper and beneficent restrictions. The Supreme Court of Illinois declared an eight-hour law applying to women em-

ployed in the sweating trades unconstitutional on the ground that it involved class legislation, and yet the courts in Massachusetts, New York and even Pennsylvania have affirmed the right of the legislature to single out women and the sweating trades for restrictions which do not apply generally throughout the community. Finally, the Supreme Court of Colorado declared unconstitutional an eight-hour law applying to men employed in the mining and smelting industries on the ground that if such a law was calculated to protect the health and morals of any one, it could only be of the very men whose work was restricted, and that the legislature had no right to restrict freedom of contract for the benefit only of the persons whose liberty was thus limited; and yet the Supreme Court of the United States had declared, in upholding the constitutionality of an identical statute previously passed by the state of Utah, that the legislature had the right to protect an individual even "against himself," on the ground that "the state still retains an interest in his welfare no matter how reckless he may be," and that when "the individual health, safety and welfare are sacrificed or neglected the state must suffer." In all of these cases, except the last, the difference of opinion concerns not the principle involved, but its application, and it requires no great insight to perceive that the really determining consideration was whether the particular measure was deemed wise and beneficent or the reverse. If expedient, a restriction on labor must always be calculated to protect the health, morals or welfare, at least of the protected classes. If inexpedient, it becomes thereby an illegitimate exercise of the police power for the simple reason that it is not calculated to secure, in a large sense, the ends for the realization of which that power exists. It follows that the constitutional obstacle to labor legislation in the United States may be expected to give way so soon as public opinion, and particularly judicial opinion, has been educated to the point where it approves of such legislation. As laws that may be passed in this field are not likely to be enforced unless public opinion is behind them, this obstacle ought not to retard unduly the enactment of such restrictions as industrial conditions call for.

Child-labor Laws in the United States.

§ 326. The development of child-labor laws in the United States has been closely connected with the growth of public schools to serve as substitutes for the factory and workshop. Those states which have given most attention to questions of education, like Massachusetts and New York, have adopted the most rigid child-labor laws. On the other hand, the states whose public educational systems are backward, as are those of the South, have lax child-labor laws. During the last decade a great deal of attention has been given in the United States to the needs of children and not a year now passes that additions are not made to the protective laws of some of the states. At the time of writing (1912) the child-labor law of New York sets as high a standard as that of any state. Under this law no child under fourteen may be employed in manufacturing or mercantile pursuits and no child under sixteen may be employed without an "employment certificate." Such certificates are issued by the local boards of health only on the basis of documentary or other conclusive evidence of age and of school attendance or proficiency, and of a physical examination to determine fitness. Children from fourteen to sixteen who obtain such certificates may be employed not more than eight hours a day in factories and not more than nine in mercantile establishments. To facilitate enforcement, the working period for children in factories is rigidly restricted to the hours from 8 A. M. to 5 P. M. From this high standard the child-labor laws of the other states digress to the low standards still found in some of the Southern States. An efficient agency for hastening reform in this field of legislation is the National Child Labor Committee. From its headquarters in New York City this association is engaged in organizing local sentiment to secure better laws and more rigid enforcement in those communities where standards are lowest. Through its efforts and those of the local committees affiliated with it, there is good promise that the standard already attained in New York and in half a dozen other states will in no very long time become in its essential features the uniform standard for the whole country.

Equally important with restrictions on the labor of children are provisions insuring their attendance at suitable

schools up to the age when they are permitted to become bread-winners. As the public schools are improved and extended, little argument will be needed to demonstrate the advantage of having every boy and girl enjoy the training they afford, or equally good training, up to the age at least of sixteen. Merely as a commercial investment, public money spent on such training is sure to yield rich returns in the superior industrial efficiency of the population. In order to insure that full advantage will be taken of the public schools it is necessary to restrict the employment of children more rigidly than regard merely for their physical development would require. On this ground the prohibition of the employment of children under fourteen should be looked upon as only a beginning. By successive steps the minimum age of employment should be raised at least to sixteen, and school facilities should be increased and improved so that all children up to that age shall be given the best educational advantages.

Laws Protecting Women Workers in the United States.

§ 327. As regards the labor of women, labor legislation in the United States is still backward in comparison with that of the more progressive countries of Europe. In several of the states there are still (1912) no restrictions on the working hours of women. The restrictions in the others are commonly limited to the prescription of the ten-hour day and sixty-hour week and often in such form that the enforcement of the law is exceedingly difficult. This has been due not only to the indifference of state legislatures but also to the hesitation of the courts in admitting that such restrictions are constitutional. In Illinois it was not until 1910 that the view asserted by the Supreme Court of the state fourteen years earlier that a law limiting the hours of employment of women in certain occupations was class legislation and, therefore, unconstitutional was superseded by the more enlightened opinion that it is reasonable and proper to limit the labor of women, although the labor of men in the same occupations may remain unlimited and that, therefore, a ten-hour law for women is constitutional. In New York the Court of Appeals upheld the right of the legislature to limit the daily hours of employment of women, but declared unconstitutional the

provision prohibiting their employment at night (1907). This decision was all the more surprising because the year before some of the leading countries of Europe had come together at the invitation of Switzerland to ratify a treaty by which they mutually bound themselves to prohibit the night work of women within their respective territories for the promotion of the public health and welfare. The New York decision still (1912) stands as the only one in which this issue has been discussed. Partly in consequence of it only three states, Massachusetts, Indiana and Nebraska, prohibit night work for women, while such a progressive state as Wisconsin expressly permits night shifts for women workers with the qualification that eight hours at night shall be deemed equivalent to the ten hours' employment permitted during the day (1911).

The opposition to special restrictions on the working hours of women, so far as it is disinterested, is based on the fear that these may serve to undermine their spirit of independence. Experience seems to indicate that they have, in fact, a directly contrary effect. By preventing employers from prescribing working hours that would be detrimental to the health of their women employees, they permit such women to retain that state of mind and body that is indispensable to any real independence of thought and action. So long as the restrictions apply generally to all women and are neither extreme nor unreasonable, there is nothing in them to lessen the self-respect of the protected classes. They are accepted as are the other circumstances of life over which the persons affected have no control and strengthen rather than weaken their determination in dealing with those conditions which they may hope to modify. The reasons for regulating the employment of women apply with special force to those who are married. In the United Kingdom the law prohibits the employment of such women within four weeks after childbirth, and all medical authorities agree as to the importance of such a restriction. Many thoughtful persons think that the law should go even further and either prohibit altogether the employment of married women in shops or factories or limit it to married women without infant children. Desirable as such a limitation would be in many cases, the impossibility

of enforcement is a decisive objection to it. It seems wiser to rely upon the education of married women themselves and their husbands, and upon the influence of public opinion, to restrict their employment to cases in which it involves no sacrifice of the interests of children.

The Legal Eight-hour Day.

§ 328. Restrictions in reference to hours of employment, imposed in some instances by law and in others by the rules of trade unions, have advanced so far in the United States that there is now widespread agitation for a legal eight-hour day, to apply to all employees in all trades. This period of employment has already become general for government employees. It is common in the building and other skilled trades. In other employments, nine, ten and even twelve-hour periods are still the rule, but many people believe that the time is ripe for the change to eight hours.

Arguments against It.

Much as may be said in support of a further shortening of the working day in many employments, the proposal that a uniform period be imposed by law upon all alike seems, to say the least, premature. Different occupations make different demands on the strength and nervous energy of workmen, and a workday that would be moderate for one kind of employment would be excessive for another. These differences have been considered in the development of protective labor laws in the distinctions made in all countries between manufacturing, mercantile and other pursuits. To disregard them by establishing a uniform eight-hour day would be to ignore considerations to which more rather than less attention ought to be given. Such differences are important not merely from the point of view of protecting workmen from undue fatigue but from that of efficient production. For certain trades there is no doubt that the adoption of the eight-hour day would involve no reduction in output. In them, the shorter work period would insure more active and intense exertion on the part of workers than they can maintain when employed for nine or ten hours. On the other hand, it is equally certain that in other trades reducing hours to eight a day would reduce the output. The effect of this in the long run would normally be to reduce wages, and it is highly probable that such a reduction would in many cases inflict more injury

than the shorter workday could compensate. Thus from the point of view both of the strain on the worker and the effect on the output there are sound economic reasons for workdays of varying lengths.

Arguments for It.

On the other hand, it cannot be denied that there are weighty social and practical reasons in favor of the universal eight-hour day. The chief social reason is the greater and greater importance which men and women ascribe to leisure for social intercourse and recreation as the struggle for a bare living becomes less severe. From the viewpoint of this desire for leisure there is as much to be said in favor of an eight-hour day in one occupation as in another. The demand, eight hours for work, eight hours for meals and relaxation and eight hours for sleep, thus makes a general social appeal and seems as reasonable to those who could work nine hours or ten hours without undue fatigue as to those who find more than eight hours exhausting. The practical reason is that the task of differentiating between different employments and deciding as to the precise length of the workday that is adapted to each is one of great difficulty. Labor legislation must content itself with rough approximations, and, although it might be true that eight hours and a half or even nine or ten hours in one employment was no more fatiguing for the average man than eight in another, it would still be difficult to prove it to the satisfaction of all concerned. It is thus much easier to prescribe the length of the workday for great groups together, leaving it to the workers themselves and their employers to offset differences in the toil demanded by different occupations by changes in rates of wages. It is on these grounds that legislation in regard to government employees usually prescribes the same number of working hours a day irrespective of the nature of the employment. As prescriptions in regard to hours for men in private employments become more common, it is highly probable that these social and practical considerations will guide them in the direction of the universal eight-hour day.

The view that restrictions on working hours should be confined to women and children, though tenaciously held, must give way before the conclusive evidence that men are often

equally in need of such protection. Skilled workmen, especially when organized in trade unions, do not usually require protection. To unskilled workmen, however, labor legislation may be the indispensable means to the attainment of a higher standard of living and of industrial efficiency. The argument that it serves to undermine the spirit of independence has already been examined and rejected. Those who advance it fail to consider that deadening and monotonous toil too long continued is more inimical to the spirit of independence than any amount of regulation. They also ignore the fact that restrictive labor laws are usually passed out of deference to the wishes of those they are designed to protect, and that they are often the only means by which a determined majority can prevent an ignorant or selfish minority from blocking progress. Here, as elsewhere, it is often desirable for the state to interfere to establish the plane of competition, and experience affords no ground for the view that self-reliance and the spirit of self-help are lessened by an exercise of legislative authority to advance this plane to ever higher levels.

Conclusion as to Hour Legislation for Men.

§ 329. Industrial progress, like progress in other fields, has its dark as well as its bright side. The dark side in connection with conditions of employment is presented in the so-called "sweating trades." These are carried on in large cities everywhere and have even spread to country districts. A description of the system as it prevails in connection with the clothing industry will reveal its salient features. As this industry is now carried on, it is divided into various stages. Cutting the cloth from which garments are to be made is performed under the direct superintendence of the manufacturer. The pieces are then tied in bundles and turned over to contractors who agree to have them made up at so much a garment. These contractors convey them to their shops, the "sweat-shops" proper, and either have the work done there under their own supervision by poorly paid and over-worked men, women and children, or else subcontract them to men and women who make them up in their own homes.

The Sweating System.

The evils that result from the sweating system are that wages are low and unequal for the same kinds of work, employment is irregular, hours are long, the premises on which

Its Evils.

the work is done are insanitary and, finally, there is little chance for advancement in the trade for the rank and file of workers. The system owes its existence to a number of causes. In the first place, the work to be done is of the simplest character, and any person of ordinary intelligence can learn to do it, after a fashion, after a few hours' instruction. This throws it open to the competition of men, women and children of all classes and conditions. Home work is taken by the well-to-do wives of laborers as a means of securing pin-money, and also by poor widows struggling to keep their children from starvation. Men too old for any other kind of work sew side by side with young children who ought to be in school. The consequence of this competition is that the labor market is always overstocked and wages correspondingly depressed. In the cities of the United States competition for employment in the sweating trades is made especially severe by the steady influx of immigrants, many of whom find this species of work the easiest to take up, and do not learn, until after they have been in the country some time, how much worse off they are than American workmen in other trades. Another cause is the ignorance and comparative isolation of the workers. This applies especially to those who work at home. They go to the contractor, or "sweater," singly or in pairs, and have to rely largely on his fairness in determining what they ought to get for their work. The success of the sweater depends upon the shrewdness and relentlessness with which he takes advantage of his position. He makes a special bargain with each outworker and gets the best terms he can, irrespective of what he is paying others for the same work. The different piece prices to which this may give rise was illustrated in Philadelphia during the Spanish-American War, when standard army trousers, all of which had to be passed upon by the same government inspectors, were being made up in different shops for from thirty-five to seventy-five cents a garment. Still a third cause of the system is the irregularity of the demand for the goods produced. At certain seasons work is active and contractors who have taken "hurry-up orders" drive their employees to the extreme limit of human endurance. At other times

work is scarce and the competition for it is so severe that earnings are reduced to a starvation level. This irregularity is perhaps the worst aspect of the sweating system, since it is destructive alike of health and character.

Remedies Tried in United Kingdom and United States.

§ 330. It is easier to perceive the causes of the sweating system than to devise remedies, and yet much has already been done to improve conditions. In American cities the plan is being tried of requiring premises in which the sweating trades are carried on to be licensed for the purpose, and of making the issue and continuance of licenses contingent on compliance with sanitary and labor regulations. The factory inspectors are required to inspect the shops and homes in which such work is performed and to hold contractors responsible for work done in unlicensed premises. In the United Kingdom a further step has been taken by making the manufacturers for whom the work is being done responsible for the sanitary condition of the premises in which it is performed, after notification by the inspector that these premises are unsatisfactory. Either system requires for its successful operation a larger force of factory inspectors than has usually been provided. Moreover, even if rigidly enforced, the measures thus far taken in the United States would remedy only one phase of the sweating evil, that is, the insanitary conditions under which the work is carried on. The long hours and low wages, which are its worst features, remain unaffected.

Minimum Wage Regulations.

The most drastic remedy yet applied to the sweating evil was adopted by the state of Victoria, Australia, in 1896, through the creation of wage boards consisting of from four to six members to be chosen one-half by employers and one-half by employees and empowered to fix not only wages, but hours of labor and the proportion of apprentices to be employed in the designated industries. The decisions arrived at by these boards are binding on the whole trade, and can be reversed only by the Supreme Court. Under this system, applying now to more than one hundred trades, minimum wages both for time and piece work have been established and maximum hours of employment prescribed. The available evidence indicates that conditions in the sweating trades have been

materially improved, and that, incidentally, home work in certain trades has been rendered unprofitable. Of course, one effect of the change has been to increase the number of persons in the colony who are dependent on public charity, but the exclusion of these incapables from the ranks of the employed is believed to have been good both for them and for the more efficient. In practice, New Zealand's system of compulsory arbitration has secured for many of the sweating trades wages and hours determined by judicial decree, and in the opinion of some persons the results of this method are even superior to those of Victoria's wage boards. The essential characteristics of both are that considerations of social expediency and general good are substituted for blind competition as the regulators of conditions of employment, and standards are fixed which insure to those who can obtain employment living wages and reasonable hours. The inefficient, who are "unemployable" under the new conditions, become objects for public charity, but experience seems to prove that the whole cost of their maintenance is less of a tax on the social organism than was their competition when they were allowed partly to maintain themselves.

Other Remedies Advocated and Conclusion.

Both New Zealand's and Victoria's plans for solving the sweat-shop problem were until recently dismissed as too radical by most American students of the evil. The further remedies that have been advocated for the system as it exists in the United States are additional restrictions on immigration, more rigid sanitary regulations and a provision that all garments made in tenement houses shall bear a "tenement-made" label as a warning to consumers that they are buying sweaters' products. There is little question but that these changes in the law, coupled with provisions for more rigid enforcement, would cause improvement, but it is doubtful whether the evil can be corrected by such simple means. It is a significant fact that after a most careful study of the sweating evil the British Parliament in 1909 passed a Trade Boards Act copied closely after the system of Victoria and providing for the extension of the plan to other trades than the four to which it was made immediately to apply. A Massachusetts Commission recommended a similar plan for that state and in

1912 an act was passed empowering employers and employees to organize wage-boards. That belief in this remedy for unduly low wages is taking strong hold on American public opinion was illustrated by the fact that Oregon, on the other side of the Continent, passed a more sweeping Minimum Wage Board Act in the following year (1913). Meantime Ohio has inserted in her constitution (1912) a provision permitting such legislation. If successful boards are organized the next step will no doubt be to make their findings as to the wages that should be paid mandatory on all trades deemed to require them in states like Massachusetts which have not given them mandatory powers. This is the only remedy which strikes directly at the root of the evil. If other plans fail it must in time be adopted.

Dangerous Trades.

§ 331. Besides the sweating trades there are others which require special regulation on the ground that they are dangerous to life or health. All manufacturing industries which use power machinery are dangerous to a certain extent, and experience has taught the wisdom of requiring that revolving machinery be fenced and that the cleaning of machines while in motion be either prohibited altogether or limited to adult workmen. In addition to these general regulations, which are now included in the factory laws of all progressive countries, experience has shown the need of special restrictions on particular trades. Occupations connected with the cleaning of textile fabrics and the polishing of metals are peculiarly unhealthful, as are also those concerned with the manufacture of white lead and of many chemicals. In the transporting and mining industries the rate of mortality is very great and can only be kept down by legal interference, since even such simple appliances as safety lamps and automatic couplers are introduced but slowly by employers unless their use is made obligatory.

System of Regulation of the United Kingdom.

The United Kingdom has gone much further than any of the states of the United States toward the adequate regulation of dangerous trades. The present system of that country is to vest large discretionary powers in reference to the control of dangerous trades in the Home Secretary. Medical practitioners are required to report illness which they believe

to be due to unhealthful conditions of employment to the factory inspectors, and the latter, so soon as they become persuaded that a trade is dangerous and in need of special regulation, are required to bring the matter to the attention of the Home Secretary. That officer, if he deems it necessary, drafts, with the assistance of experts, rules calculated to meet the needs of the situation and sends copies of them to the employers who will be affected, with the request that they file their objections to them within twenty-one days. These are carefully considered, and revised rules are then issued which have the force of law unless vetoed by either House of Parliament. The obvious merit of this system is the ease with which it adapts itself to changing industrial conditions.

The Wisconsin Plan.

In the United States the constitutional principle that administrative officers may not be clothed with legislative power has been an obstacle to the adoption of a similar system. This principle is not absolute, however, and already one state—Wisconsin—has devised a plan, which the courts have upheld, for securing the flexibility of the English system. This is to prescribe in the law that work places and conditions of employment shall be " safe " and to leave it to an Industrial Commission of three members to issue regulations declaring what guards, etc., are necessary to safety. As these regulations are subject to judicial review it has been held that no constitutional principle is violated by the plan. Wisconsin and seven other states also require physicians to report all cases of illness due to certain occupational diseases to the state departments either of labor or health, so a fund of information is gradually being collected as to the occupations for which special safeguards should be prescribed.

Associations Working for Labor Legislation.

As the National Child Labor Committee is leading the movement for better and more rigidly enforced child-labor legislation, so the National Consumers' League and the American Association for Labor Legislation are leaders in the effort to secure better protection for women workers and for employees in dangerous and unhealthful trades. An interesting aspect of the work of the last association results from its affiliation with the International Association for Labor Legislation, whose headquarters is at Basle, Switzerland. Through the

biennial congresses of this international organization, representatives from the sixteen state sections are brought together and steady, if slow, progress is being made toward more rigid and at the same time more uniform labor laws for all of the participating countries.

Present State of Public Opinion in the United States.

§ 332. The subject of the legal regulation of labor is one of great complexity. Up to the present time *a priori* objections to such regulations have delayed their introduction, and only gradually, as experience has demonstrated their usefulness, have they been extended to situations which seem to require them. In the United States the notion that the legislative power should not be used to regulate hours and conditions of employment has been abandoned by most thoughtful persons, but the prejudice against any interference with wages, like that practised in New Zealand and Australia, remains nearly as strong as ever. There is, of course, good ground for this distinction. Hours and other conditions of employment affect directly the health and vigor of the working classes; wages only indirectly. Moreover, workmen are less mindful of their own interest in connection with hours and sanitary arrangements than in connection with wages. Making all allowance for these considerations, many thoughtful persons still believe that, under certain circumstances, notably those found in connection with the sweating system, the regulation of wages must also be undertaken by the government if serious evils are to be corrected. It is sometimes argued that the law cannot fix the rate of wages, but this is contrary both to reason and experience. The law cannot fix both wages and the number of persons who shall be employed at those wages, but it can declare that no one shall be employed in given trades unless paid certain minimum wages, and enforce its decree. The result may be an addition to the number of dependents, who are "unemployable" at the wages fixed because too inefficient to earn them, but it may be better and cheaper for society to support such persons in some other way than to permit their competition to hold the wages of great sections of the population down to a starvation level. In order to mark off the dependent from other classes the state may find it necessary itself to fix a standard by which

the ability of the individual for independent self-support may be determined. Without undertaking to advocate the establishment by law of standard or minimum rates of wages for the sweating trades, the author wishes to insist that there would be nothing in this policy inconsistent with the theory of wages that has been explained in these pages, and that it merits the same unprejudiced consideration as is now accorded by intelligent people to proposals for restricting the employment of children or women, or for requiring the use of safety appliances in connection with dangerous trades.

Need of Uniformity in Labor Legislation.

In the United States a serious obstacle to the progress of labor legislation has been the inability of state legislatures to agree upon uniform laws. Massachusetts has held an honorable place as a leader in factory legislation, but of late years proposals for a further restriction of hours have been met there with the objection that the cotton mills of the state were already carrying on a losing battle against the cotton mills of the South, which have been free from all but the mildest labor restrictions. Exaggerated as this objection often is, it points to the need of uniform labor laws, at least for neighboring states, and suggests the desirability of national labor legislation. Massachusetts, the state which from its position of leadership has most keenly felt the absence of uniformity, adopted, in 1902, a concurrent resolution favoring an amendment to the United States Constitution which should empower Congress to enact uniform labor laws for the whole country. Another movement in the same direction was the creation, in 1883, of the Association of Officials of Bureaus of Labor of America, which has worked earnestly to secure uniformity in the factory regulations of the different states. The progress toward uniformity that has been made encourages the hope that its absence may be less of a bar to improved labor regulations in the future than it has been in the past.

REFERENCES FOR COLLATERAL READING

The literature on labor legislation is of a somewhat technical character. **Stimson*, Handbook to the Labor Laws, is the standard work for the United States. More exhaustive is the Report of the United States Bureau of Labor on Labor Laws in the United States,

which is brought down to date by the Bulletins of Labor of the same Bureau. Volumes V. and XVI. of the Report of the United States Industrial Commission contain digests of the labor laws of the United States and of foreign countries. Current labor legislation is described in the Bulletins of the International Labor Office and the American Labor Legislation Review. Discussions of the history and effects of labor legislation will be found in *North,* Factory Legislation in New England (against) and *Whittelsey,* Massachusetts Labor Legislation (for). A good statement of the arguments for child-labor laws is given in **Murphy,* The Case Against Child Labor and The South and Her Children, and *Spargo,* The Bitter Cry of the Children. The organ of the National Child Labor Committee is called The Child Labor Bulletin. An admirable presentation of the argument for short-hour legislation and review of the important American laws and decisions is **Goldmark,* Fatigue and Efficiency. See also **Van Kleeck,* Women in the Book-binding Trade and Artificial Flower Makers.

The history of labor legislation in Great Britain is treated in *von Plener,* English Factory Legislation (1876), and **Hutchins* and *Harrison,* A History of Factory Legislation (1907). The laws now in force are given in *Abraham* and *Burrows,* The Law Relating to Factories and Workshops. The best books dealing with special topics are: **Mrs. Webb,* The Case for the Factory Acts; **Black,* Sweated Industry.

CHAPTER XXXI

PROFIT SHARING AND LABOR COPARTNERSHIP

Subjects of Concluding Chapters.

§ 333. The industrial system which has been described and analyzed in the preceding chapters leaves much to be desired. Labor legislation has been proposed as a means of correcting some of the evils that bear with special hardship upon wage-earners, but other and more fundamental measures are widely advocated and merit sympathetic consideration. In these concluding chapters attention can be given only to those reform proposals which are in themselves most important or which have the largest number of supporters. These are Profit Sharing and Labor Copartnership, or Coöperation, discussed in the present chapter; Social, or Workingmen's, Insurance, considered in the next chapter; and Socialism, discussed in Chapter XXXIII. In the concluding chapter the results of our analysis of the present industrial system and of different plans of economic reform are brought together in a brief survey of Economic Progress.

Defects of Wages System.

§ 334. One defect charged against the present industrial system is that workmen, upon whose labor and fidelity the success of business undertakings so largely depends, receive no direct share of the profits. Wages constitute usually their sole compensation, irrespective of the gains of the enterpriser who employs them. Wage-earners are thus often without any direct incentive to contribute their maximum to the productive results. To remedy this situation various plans of profit sharing, gain sharing and other modified forms of wage payment have been devised.

Definition of Profit Sharing.

Profit sharing has been defined as an "agreement, freely entered into, by which the employee receives a share, fixed in advance, of the profits." Unless the agreement is made in advance the economic purpose of profit sharing, that is, giving the worker an added incentive to be an efficient producer,

will be lost. On the other hand it is not to be understood that the exact amount to be paid is fixed in advance. It is of the essence of the plan that this should vary with the profits, and it may, therefore, fall to nothing should no profits result from the year's business.

Sliding-scale System.

One of the simplest methods of profit sharing is that in which wages are made to vary on a sliding scale with the price of the product. In the mining and metal industries where frequent price changes compel frequent changes in wage-scales, if business is not to be entirely suspended because no longer profitable, this system has been found to work fairly well. It lessens the danger of labor disputes, because in good times wages rise automatically without any action on the part of the wage-earners; in periods of depression and low prices, on the other hand, it enables employers to reduce their expenses of production without incurring the hostility of their men.

Need of Standard Minimum Wage.

Although advantageous, under proper limitations, to both employers and employees, this system is open to grave objections unless standard rates of wages are established as a minimum below which earnings are not to be depressed, no matter how low the price of the product may fall. In every branch of industry prices are subject to variation and tend at times to fall below the normal expenses of production. The force which is relied upon to restore them at such periods is the unwillingness of enterprisers to continue production at a loss. Under the sliding-scale system, wages, a principal item among the expenses of production, fall as prices fall. The consequence may be that enterprisers can still produce at a profit even when the price is too low to afford a fair return to wage-earners. Under such circumstances the force relied upon to restore prices is removed and they may for some time remain below the level which permits a fair competitive return to all parties. A sliding-scale method of remuneration, which has not as its basis minimum wages, is thus a menace to the permanent well-being of the wage-earning class.

Another objection to the sliding scale is that it assumes a constancy of relation between the price of the product and the amount of the profits that does not in fact exist. Thus,

anthracite coal-mine owners in the United States objected to the application of the system to that industry by the award of the Strike Commission already referred to (Section 316) on the ground that their expenses of production were growing each year heavier as the mines grew deeper, and that higher prices in the future would be necessary to cover these rising expenses, and would, consequently, give rise to no fund that could be shared with their employees. Whether this position was justified in this particular case or not, there can be no doubt that changes in prices are too inaccurate indices of changes in profits to permit the extension of the sliding-scale system to many branches of business.

Limited Application of Sliding-scale System.

Simple Profit Sharing and Circumstances Limiting its Extension.

§ 335. Another method of sharing profits is for the enterpriser to appraise his own services as worth a certain wages-of-management and to agree to distribute all profits above this sum to his employees—including himself as salaried manager—in proportion to the wages which they respectively receive. Such a distribution of profits, if fairly carried out, offers a great incentive to all employees to contribute their maximum to the success of the business. For small establishments, in which the relations between the employer and employee are close, this system can be maintained to the mutual advantage of all concerned. There are certain obvious limitations, however, on its wide extension among large corporate enterprises. In the first place profits depend often on conditions which the workers in the particular establishment cannot in the least control. Some change in demand or some increase in outside competition may force prices down to a point that entirely wipes out profits, though production is carried on as efficiently or even more efficiently than in years of large gain. Unless the profit sharers have implicit faith in their employers, a mental attitude toward large corporate employers which is unfortunately not common, failure to receive any share of profits in consequence of low prices, when production is seen to be going on with great efficiency, will almost certainly give rise to ill-feeling. This is the defect which has caused many profit-sharing plans, introduced in perfect good faith by broad-minded employers, to be abandoned after a few years' trial.

Its Limitations.

Another disadvantage connected with sharing profits among all wage-earners in proportion to wages is that this is unfairly generous to the employee who makes no effort to increase his efficiency and not generous enough to the man who responds by working more diligently and giving more thought to ways in which he can economize the materials or prevent injury to the tools or machines of the employer. At best the connection between the work of a single employee in a large establishment and the year's profits is slight. Some employees may be spurred on to greater attention to the employer's business by the promise of a fractional share of the profits; many will think a change in their mode of work can make no appreciable difference and will remain indifferent. It is chiefly because of this failure of profit sharing to justify itself on economic grounds, that comparatively few employers have been willing to incur the trouble and expense of introducing it in the simple form of a periodic division of profits above their own wages-of-management among all employees.

Profit-sharing and Insurance Schemes.

§ 336. In addition to the forms of profit sharing described above, many of a more complex character have been tried and are still in operation. A common form in France, a country which has been prolific of profit-sharing experiments, is one which credits a certain percentage of the profits of each year to a benefit fund out of which old age pensions, sickness allowances or other sums are paid to employees who continue in the employ of the firm and comply with certain requirements. Such plans are often well-intentioned but they nearly always have more to recommend them to employers than to employees. They are highly paternalistic and while the assumption on which they rest that employers are more farsighted than their employees and can improve the material welfare of their men by forcing them to become sharers in funds for old age, illness, etc., which, though much needed, they will not provide for themselves, is often true, they none the less are resented by self-respecting and independence-loving workers. Moreover, their tendency to attach the workman to his employer, since by changing to another employer he loses his claim on the benefit fund, though a merit from the

point of view of the employer, is a serious defect from the worker's viewpoint. Wage-earners know from experience that their ability to improve their condition depends often on a willingness to change from employer to employer. Any device which impedes this free movement in pursuit of higher wages, shorter hours or other benefits is very properly viewed by them with a good deal of suspicion.

Profit Sharing Through Stock Ownership.

Another and less objectionable mode of profit sharing that is designed to attach a worker to his employer is that of selling shares of stock to employees on favorable terms and paying them, so long as they remain in the same employment, in addition to the dividends to which they are entitled as share-holders bonuses in proportion to the number of shares so acquired which they continue to own. This is the plan introduced a few years ago by the United States Steel Corporation as a means of attaching employees to the Corporation. It has been severely criticized by labor leaders because at the same time that the Corporation was making this and other liberal provisions for its employees as individuals it was rigidly suppressing every effort that they made to form labor organizations. The two policies together are indicative of the paternalistic attitude which this and many other large American corporations are disposed to assume toward their employees. This attitude is often well-meant but the measures to which it leads can hardly be expected to contribute to the long-run best interests of American workmen. Much more important from the point of view of the wage-earner than plans which add somewhat to his yearly income are plans that increase his independence, self-respect and all around human efficiency.

The progress of profit sharing the world over is fairly well illustrated by the following facts relating to the United Kingdom: Of the 299 schemes which are known to have been launched in that country from 1870 to 1912, 163, or more than one-half, were abandoned. Moreover, of the 133 still in operation, of which 33 were of gas companies, 81 were started since 1900 and 62, or nearly one-half, since 1905. The average "bonus" or share of profits paid out under these different schemes in 1911 represented an addition to the wages of par-

ticipants of 5.5 per cent, which happened to be also the average addition to wages for the longer period, 1901-1911.

Other Plans.

§ 337. Because of the failure of simple profit sharing to meet fully the desires of employers and employees for some system that will serve to harmonize their conflicting interests, the most important recent experiments having in view a modification of the wage system have been in somewhat different directions. On the one hand, so-called "efficiency engineers" have devised an ingenious system known as "gain sharing." On the other, those whose interest in the labor problem is more broadly social have sought to substitute for profit sharing schemes of outright labor copartnership or coöperation.

Gain Sharing.

The most serious limitation on profit sharing from the point of view of the employer is the weakness of the appeal it makes to the individual employee. Gain sharing corrects this defect by addressing itself directly to the individual and making its results depend simply and solely on his efficiency as a producer. Its forerunner in the gradual evolution of wage systems was the "piece wage." Under the piece system wages are based not on the hours of work but on the number of pieces of product that are turned out. This is a satisfactory system to the employer and has been used wherever the work was of such a character that the product of each individual worker could be separately measured. It has been less satisfactory to employees because under it, as they have learned by painful experience, employers are only too apt to cut down the piece rate as they increase their efficiency, so that in season and out of season their wages will average no more than under the more easy-going day-wage system. Gain sharing seeks to present the system of piece-payment in a form that will be acceptable to the workers and at the same time highly advantageous to the employer. At its basis is a standard wage agreed to in advance and paid as a minimum to all workers irrespective of their outputs. Experts are employed to determine the output that an average workman exerting himself with average diligence should turn out in each branch of production in a normal day. The standard wage divided by the normal output fixes the normal piece price for each branch of production. The "share of gain"

which the employer introducing the system offers to his employee is the whole, or an agreed part, of this normal piece price for every piece above the normal output which the worker can add to his product. The worker who is unable or unwilling to add to his product continues to receive the same wage as before. On the other hand, the ambitious and capable worker has a direct incentive to increase his output, an incentive which in practice, where the system has been introduced, has often led to astonishing results, such as a premium equal to two, three or even six times the standard wage.

Its Advantages and Disadvantages.

For employers who are disposed to vary the wage system on purely economic and self-interested grounds, the system of gain sharing has great advantages over any system of profit sharing that has yet been devised. Its success explains its widespread use in American mills and factories in connection with processes where the product of each worker can readily be measured. If introduced and carried out in perfect fairness and good faith, it also has much to recommend it to employees. The basis will not be changed, as a piece rate may be, since it is part of the agreement that the rate which has been carefully determined at the outset will be maintained for two, three or even five years, or until the process itself is changed. The worker is not tied to his job, since his gain comes to him as regularly as his weekly wages and he loses nothing by changing to another employer who offers him better terms. Finally, under the system capable workers are able to add substantially to their earnings, often by merely giving closer attention to their work without increasing appreciably their exertions. Notwithstanding these advantages, gain sharing, like profit sharing, has been opposed by labor leaders. Their chief objection to it is that it tends to reconcile wage-earners to the current rate of wages, their remuneration, or the remuneration of the abler of them, coming in part from the supplementary premiums they receive, and to make them less persistent and aggressive in demanding better conditions of employment. Gain sharing undoubtedly has this tendency, but, on the other hand, it must be remembered that wages cannot always be advancing, and that a sys-

tem which serves to remunerate the workers fairly for the added product due to their increasing efficiency may supply in the larger aggregate earnings of wage-earners a better basis for an advance in the standard rate than if day wages alone were received. The system has not been in operation long enough to justify any confident conclusion, but if backed by a strong and wisely-led union, wage-earners would seem to have opportunities to improve their condition under it which the ordinary wage-system does not afford.

Labor Copartnership, or Coöperation.

§ 338. Labor copartnership, or coöperation, goes a step further than profit or gain sharing, since it undertakes to dispense with the employer altogether. For him is substituted a committee representing the workers, or, in distributive or consumers' coöperation, the purchasers, and chosen by them to direct the undertaking for their mutual benefit. Three different forms of labor copartnership may conveniently be distinguished, distributive or consumers' coöperation, coöperative credit or banking and producers' coöperation or labor copartnership proper. The first aims to enable consumers to secure the commodities they require at less expense by eliminating the profits of middlemen in retail and even in wholesale trade. The second undertakes to bring capital within the reach of borrowers, such as small farmers and traders, whose situation prevents them from securing advances readily from ordinary commercial banks. Finally, the third proposes to displace the profit-receiving enterpriser or the hired manager of a corporation in the operation of farms, mines, factories and other productive undertakings by persons chosen and paid by the workers themselves, the workers themselves supplying the capital and taking the risks of the enterprise. Up to the present time labor copartnership has succeeded best in connection with trade, and especially retail trade. A brief description of its development in Great Britain, where it has enjoyed widest extension, will serve to introduce a discussion of its strong and weak features.

Coöperative Stores.

§ 339. Successful labor copartnership in England may be said to date from the year 1844, when the famous Rochdale coöperative store was founded by the twenty-eight "Rochdale pioneers." In this store, which has become a model for

thousands of similar coöperative stores in all parts of the world since, the needed capital was obtained by the issue of shares of low par value ($5.00) to prospective purchasers from the store, with the understanding that a fixed return of five per cent should be paid on the capital subscribed by the shareholders before any profits should be divided among the coöperating purchasers. Democratic control of the store was secured and preserved by crediting shares to any one who desired them on the payment of one-twentieth of the par value in cash, the balance being paid in installments out of the share of profits credited on the purchases of such shareholder, by limiting to two hundred the number of shares that could be owned by a single individual, and by maintaining the principle, "one man, one vote," so that the one-share member should have just as much voice in the management of the store as the owner of many shares. The prices charged at the store were the prices current in the locality. At the end of every quarter any profit made over and above all of the expenses of conducting the business, including interest on the share capital, was divided among the purchasers from the store *in proportion to the amount of their purchases.* Thus the purchasers, not the share-holders, whose return remained fixed at five per cent irrespective of the profitableness of the business, were the beneficiaries as the business grew and prospered. At the time of their purchases they were guaranteed that the quality of the goods offered would be exactly as represented. At the end of each quarter they received a dividend on the amount of their purchases, which would make the prices they actually paid substantially lower than in stores conducted for profit.

Success of the Rochdale System.

From a very small beginning the Rochdale store, guided by these principles and conducting all of its operations on a cash basis, has grown to be a great enterprise, with thousands of members and hundreds of thousands of capital and of annual sales. It has even launched out into other fields than retail trade, as several branches of manufacturing are now conducted to supply the commodities that are to be sold through the store and its branches. These manufacturing departments are administered by the same committee which

manages the store on behalf of its share-holders and purchasers and do not, therefore, present an example of true labor copartnership. The employees in them receive wages just as do the employees of an ordinary manufacturing corporation and have no voice in the management of the business. It is a notable fact that English coöperative stores of the Rochdale type can command on their managing committees men of such great business ability that they have been able to conduct successfully not only the stores confided to their management but also many mills and factories. These should not be cited, however, as examples of successful producers' coöperation or labor copartnership, so long as the coöperative relation does not include their employees, but only the purchasers from the stores for whose benefit they are carried on.

Coöperative Wholesale Societies.

The remarkable success of coöperative retail stores modeled after the Rochdale experiment emboldened the leaders of the movement to establish in 1864 the English Coöperative Wholesale Society for the purpose of buying jointly for retail coöperative stores on more favorable terms than they could secure by dealing with ordinary wholesalers and jobbers. The Wholesale was a success from the very start. By 1910 it had a membership of over 1000 retail societies and a capital of nearly £2,300,000, while its sales amounted to more than £26,500,000 and its profits to nearly £462,500. From buying its goods by wholesale from other manufacturers the Society soon passed to manufacturing for itself upon an extensive scale. It is now engaged in the manufacture of biscuits, cocoa, butter, preserves, sweets, boots and shoes, soap, candles, woolen goods, ready-made clothing, flour, lard, furniture, shirts, mantles, underclothing, etc., and it does its own printing and that of many of its members. In the management of its manufacturing establishments, it, too, has pursued the policy of the ordinary business corporation. It pays good wages, but it accords to its employees neither voice in the direction of the enterprises in which they are engaged nor share in the profits. This fact must not be overlooked when the success of the English Wholesale Society is cited as proof of the possibilities of labor copartnership.

The Scottish Society.

In 1868 the Scottish Coöperative Wholesale Society was launched on the model of its English predecessor. Its managers two years later introduced a profit-sharing feature, which has been retained ever since and to which the superior success of the Scottish Society is by some attributed. In 1910 the Scottish Society had nearly 300 members and a capital of over £1,000,000; its sales aggregated over £7,400,000 and its profits nearly £275,000. When it is remembered that the population of Scotland is less than one-seventh that of England the significance of these figures is evident.

Advantages of Distributive Coöperation.

With the help of the wholesale societies coöperative stores have developed in Great Britain to a point where they are said to supply the needs of approximately one-seventh of the people. Not only do they reduce the cost of living for their customers but they encourage them in habits of thrift, independence and self-respect. By insisting on cash payments and serving as a means of safe investment they promote thrift. By impressing their share-holders with the sense that they are partners in a successful business enterprise they foster a spirit of independence and an intelligent appreciation of the conditions necessary to business success. Finally, self-respect and a sense of responsibility are the natural consequences of the relation in which the coöperators stand to "the store." Thus it was no exaggeration for Lord Rosebery to declare to a coöperative congress a few years ago that "coöperation constitutes nothing less than a state within a state."

Reasons for Its Slow Development in the United States.

In no other country has distributive or consumers' coöperation been carried so far as in Great Britain, and, on the other hand, in no other progressive country has it been so little developed as thus far in the United States. The backwardness of the United States in this field has been due to a number of different causes. The better organization of retail trade in American cities and towns has offered less encouragement to promoters of coöperative stores. The absence of a settled and homogeneous industrial population has been another obstacle. With their higher wages and more extravagant habits American wage-earners have been less willing to give the necessary thought and trouble to the manage-

ment of coöperative stores for the sake of the petty economies to be effected through them. Finally, the less advanced state of the labor movement has caused the leaders who might have devoted themselves to advocating coöperative experiments to expend all their energy in striving to organize their fellows in successful trade unions. With the passage of time some of these reasons are certain to lose their force, and as they do a development of distributive or consumers' coöperation paralleling that of Great Britain may be confidently expected. Though much to be desired, the importance of such a movement should not be exaggerated. It will reduce the cost of living and improve the characters and capacities of the wage-earners who take part in it, but in essentials it will leave the present relations between employers and employees, capitalists and wage-earners, but little affected.

Coöperative Banking.

§ 340. Coöperative credit or banking has had its highest development in Germany, where it was started about 1850, and from which it has spread to all countries. The coöperative banks or "credit unions" are sometimes incorporated but usually they are merely partnerships in which fifty or more small farmers and tradesmen are partners. The essence of the plan is that the coöperators become jointly responsible for all of the obligations of the bank. Its funds are derived from the subscriptions for shares and the deposits of the members and from loans by commercial banks or, in some countries, from the government. These are loaned in small amounts to members to enable them to make improvements in their farms or extensions in their businesses that have been approved by the loan committee, and so careful and judicious are these committees, the members of which are, of course, themselves small farmers or traders of the better class, that losses from loans rarely occur. Like the building and loan associations organized by persons of limited means to enable them to acquire homes, which have been so successful in the United States, these people's banks have been highly successful in the European countries in which they have been tried and in which local conditions have been such as to create a need for them. Up to the present time conditions in the United States, owing to the constant shifting of popu-

lation and the comparative ease with which the American farmer has secured from his own profits the capital needed for further improvements, have not been favorable to coöperative banking. As the country becomes more densely populated, however, this form of coöperation will serve a useful purpose as it already has in Europe. And as in Europe, so in the United States, it will not only assist persons of limited means to secure control over the larger capitals they require but it will prove of great educational value to all of those who take part in it.

Producers' Coöperation.

§ 341. Producers' coöperation, or labor copartnership, though the first form to develop, has in few instances been able long to overcome the many obstacles which it inevitably encounters. The essential features of the system are that the workers be voluntarily associated together under the direction of a committee or manager chosen by themselves and that they supply the capital, either from their own savings or by borrowing on their combined credit. As in consumers' coöperation, so in producers' coöperation, adherence to the principle, one man, one vote, is the indispensable condition to keeping the management democratic. If once the contrary principle that voting power shall be in proportion to the amount of capital invested is admitted, the coöperative enterprise soon becomes indistinguishable from an ordinary business corporation. To attract capital under these limitations a certain fixed return, corresponding to the current rate of interest, on fairly safe investments, must be promised to those who supply the capital. Often wages and salaries are also agreed upon in advance among the copartners to be paid out of the proceeds of the business before the profits are calculated. When this is done any profits left after these expenses of production have been met are usually divided among all of the copartners in proportion to the wages which they receive. When the enterprise is small and of such a character that all of the copartners are men of about the same earning capacity, no wages may be paid, and the whole return above the replacement fund and the charges for rent and interest may be divided equally among the copartners. Satisfactory as this last arrangement is from the point of view

of equality, it is obviously applicable to a very limited number of industries. In nearly all, as production is now organized, different grades of labor are required and unless different shares of the profits are assigned to skilled and unskilled workers, it will be difficult to induce skilled workers to remain copartners. In fact, even when larger shares are assigned to the more highly skilled participants, the limitation of their voting power by the one-man-one-vote principle is often felt to be a hardship. Many coöperative experiments have degenerated into ordinary business partnerships or corporations because the more intelligent and skillful workers in them have decided that it is easier and more profitable to hire the manual workers they require than to retain them as copartners in the enterprise.

Conditions to Its Success.

Producers' coöperation, or labor copartnership, has succeeded best among farmers and fruit growers who combine to maintain coöperative dairies, to store and market their products, and for other purposes closely related to their primary business and yet calling for more capital, skill and attention than they can well afford individually to devote to them. Labor copartnership has also succeeded in skilled crafts, such as cooperage, bookbinding, etc., in which relatively little capital is required. It has had least success in connection with manufacturing and mining enterprises, except, as already explained, when these have been managed not cooperatively but as offshoots of coöperative stores. It is necessary merely to compare the business of running a factory with that of keeping a store to understand the reasons for the little progress that has been made by true labor copartnership.

Contrast Between Coöperation in Stores and in Shops and Factories.

Coöperative stores are able to succeed because the service they render is of a very simple character. They are sure of their customers. They may insist on cash payments and in this way avoid losses through unwise extensions of credit. They need little initial capital and can usually obtain this without difficulty from the savings of workmen themselves. Through the growth of coöperation in retail trade, the "cooperative wholesale" is made possible and even the development of manufacturing departments to supply products for

the retail stores. The market for these products is assured and the capital required for plant and machinery can be gradually saved out of the undivided profits of the coöperative stores. It is quite a different undertaking for a number of wage-earners to join together in a coöperative manufacturing enterprise, the capital for which must come mainly if not entirely from their own savings and the products of which must be disposed of in the general market. Successful manufacturing requires intelligent and progressive management and large capital. Workmen rarely appreciate the importance of the first and are not in a position to supply the second. With many men of different tastes, ideas and capacities working together there is almost certain before long to be a disagreement in regard to the business management. As submission to the judgment of the salaried manager must, in the nature of the case, be entirely voluntary, disagreement is only too apt to lead to insubordination and disruption. Even when capable managers are secured, therefore, efficient control of a labor copartnership can only under exceptional circumstances be maintained for any great length of time. But the chances are strongly against securing efficient managers because the workmen partners usually object to paying sufficiently high salaries. The difficulties in the way of securing capital for enterprises which require—as did the manufacturing business of the United States in 1909—investments averaging $2400 for every person employed in connection with them, are even more serious. Few workmen have so much to invest, and those who have are likely to be particularly timid about risking it in untried fields. On the other hand, few capitalists care to lend their savings to labor copartners.

Limitations to Profit Sharing and Labor Copartnership.

§ 342. Profit sharing and labor copartnership, or coöperation, have both been urged by enthusiasts as means of solving the labor problem, but in actual practice neither system has yet justified the claims made for it. Profit and gain sharing at their best are merely means of adding somewhat to wages and even if given the widest extension of which they are capable would still leave most wage-earners mainly dependent for their welfare on the standard rates of wages they could com-

mand. Moreover, they are frequently used as weapons to prevent wage-earners from organizing or from shifting to other employers to better their condition and when so employed the additions which they make to wages are dearly bought. They leave industrial society divided into two opposing parties, employers and employees, and since they fail to remove the chief ground of opposition between them, differences of view in regard to wages, hours and other conditions, they cannot furnish an enduring basis for industrial peace and good will among men.

Labor copartnership, or coöperation, is free from some of the objections that may be brought against profit sharing, but has limitations of its own that are equally serious. In the form of consumers' coöperation it may do much to reduce the cost of living and to moralize trade, but it leaves the labor problem but little affected. Coöperative credit is in turn valuable for small farmers and business men rather than for wage-earners. Producers' coöperation, or labor copartnership, offers much to workingmen but up to the present time the obstacles to its success have proved too formidable to be overcome except in a few instances. "Moreover," as has been well said,* "associations of producers are essentially antidemocratic in structure, and are, in essence, merely profit-seeking societies. Their interests are directly opposed to the interests of the community as a whole, and if they once became general, society would either be divided into small, self-governing circles of producers engaging in bitter competition within industries, or would be split into a series of monopolies, each controlling a certain industry and each representing to all of the others the antagonistic interests of the producer as opposed to the consumer."

Conclusion as to Future.

The opposition between producer and consumer is, of course, inevitable, and the above description of the goal to which labor copartnership logically leads is no conclusive argument against it. In fact, the last situation depicted, that is, groups of coöperating producers monopolizing different branches of business, with the addition of a government strong enough and intelligent enough to protect consumers against unreasonably

* Adams and Sumner, *Labor Problems*, p. 430.

high prices, is the ideal to which some of the most advanced advocates of labor copartnership consciously look forward. As an ideal this seems more practicable than that of the government ownership and operation of all industries which socialism proposes, while it is certainly superior to the present system of unregulated and often wasteful competition. Signs are not lacking that in the railroad industry and other monopolistic public service industries whose charges are subject to governmental control the relations between the employing corporation and the workers are gradually developing along copartnership lines. Investors who supply the capital, as they are largely insured against risk of loss, are more and more forced by conditions to content themselves with a fixed rate of return on their investment and to see any surplus earnings devoted to improving the plant so as to render better service to the public or to paying higher wages. Formal recognition has not yet been given to the right of the workers to a voice in the management of the business, but without such formal recognition in actual fact through their organizations they have more and more to say as to how the labor side of the business shall be conducted. Outright labor copartnership subject to rigid governmental control thus does not seem an impossible or even a very distant goal for public service industries. The future is much less clear for labor copartnership in connection with industries that heretofore have been actively competitive, but time may show that many of them, too, can be more economically and efficiently carried on as giant monopolies and in that case private, unregulated operation will also certainly give way to a certain amount of labor copartnership in management, and government regulation.

Labor copartnership is an admirable substitute for the competitive system whenever and wherever it can succeed. It appeals to higher motives than mere self-interest and its influence upon the characters of those who engage in it is broadening and ennobling. As time goes on its extension to ever wider fields may be confidently hoped for, but such extension must necessarily be gradual. All of the conditions upon which its successful operation depends—a fuller ap-

preciation by workmen of the value of the services of business managers and organizers, a willingness on their part to take orders from bosses of their own choosing, and finally an accumulation by them of capital—must be of slow growth. This does not lessen in the least the importance of labor copartnership as a plan of economic reform, but it shows the extent to which the present industrial system is adjusted to the character and attainments of the average man of the present day and emphasizes the truth that it can be displaced only as the average man is raised to a higher plane of thought, feeling and efficiency.

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CHAPTER XXXII

SOCIAL INSURANCE

Evils to be Guarded Against.

§ 343. Among the reform measures that have attracted public attention in all progressive countries in recent years none are more worthy of the thoughtful consideration of students of economics than plans of social, or workingmen's, insurance. Modern wage-earners are not only exposed to misfortunes which other classes escape, but for them the ordinary misfortunes to which we are all liable have a significance, because of the resulting loss in earning power, which they have not for persons with independent incomes. The misfortunes for which social insurance attempts to provide are: industrial accidents, illness, premature death, invalidity through old age, and involuntary unemployment. Economists until of late have very generally held that the only safe way to make provision against these contingencies was through individual saving. Their writings have abounded with laudations of the virtues of thrift and forethought and demonstrations that without them no great progress in average well-being could be hoped for. The importance of these virtues is so obvious that it is only in the recent past that the question has seriously been considered whether too much prominence has not been assigned to them. The trouble with exclusive reliance upon them as means of providing against accidents, illness, premature death, old age and unemployment, is that such saving has proved in practice to be quite inadequate for the purpose. The proportion of wage-earners who accumulate savings has remained small, even in countries of relatively high wages, like the United States. Moreover, individual savings, even on the part of thrifty and ambitious wage-earners, are constantly liable to be swept away by one of these misfortunes if the disability to which it gives rise is prolonged. Few wage-earners are able to save enough to

carry them through a whole year's loss of wages. Even fewer accumulate enough to make adequate provision for their families when death overtakes them prematurely or for themselves when it is their fate to linger on many years after their ability to command wages has departed. The usual result of a prolonged stoppage of wages is thus dependency on public or private charity with all of the suffering, humiliation and loss of ambition and of efficiency which this entails.

Argument for Insurance.

Since these misfortunes for the individual wage-earner are risks rather than certainties,* the economical way to provide against them is through some system of insurance. If all wage-earners of a given group could be induced to contribute to a common insurance fund relatively small savings would suffice to supply incomes to the victims of these misfortunes during their resulting disability. The difficulty is that most wage-earners are unable or unwilling to make the necessary provision even through the machinery of insurance. Influenced by the standards of those about them they assume the responsibilities of married life so soon as their wages suffice to meet the ordinary expenses of family maintenance. When children begin to come the demands upon their incomes for daily needs leave little or no margin for provision for the future. Thus it happens that so long as such provision is voluntary, it is largely or entirely neglected for the sake of the more pressing wants for food, clothing, shelter and recreation. Only the exceptional wage-earner carries any form of insurance beyond moderate burial insurance for himself or the members of his family. It is this situation that has led to the adoption of plans of social insurance. Since wage-earners will not and cannot afford to insure themselves against the risks to which they and their families are exposed, organized society, it is maintained, must interfere to require them to make such provision and to add to the resulting insurance funds through appropriations from the public treasury and through enforced contributions from employers, who are especially interested in the maintenance of a vigorous and efficient

* Even invalidity from old age is a risk, since, according to American life tables, nearly two-thirds of those who pass the age of ten die before the age of seventy is reached.

Definition of Social Insurance.

wage-earning population. *Social insurance may thus be defined as compulsory collective provision for the victims, and the families of the victims, of accidents, illness, premature death, disability from old age and unemployment, regulated, if not actually administered, by the government.*

Germany's Compulsory Accident Insurance System.

§ 344. Industrial accidents have been the first of these misfortunes to receive attention in most countries. The plans for providing for the victims of industrial accidents and their families have taken three different forms. Germany, the pioneer in this, as in most other fields of social insurance, adopted in 1884 the system of requiring employers to become members of mutual accident insurance associations. These associations levy assessments on their members sufficient to provide funds from which to pay compensation in accordance with a prescribed scale to the victims of industrial accidents, or their dependents in case the accidents result in death. The management of these associations is in the hands of the employers themselves but they are supervised by the German Imperial Insurance Office, to which appeal may be carried by wage-earners or their dependents when the compensation offered is considered to be inadequate. This arrangement for accident insurance supplements an arrangement for illness insurance created in 1883, and to lighten the burden imposed on employers compensation for accidents begins only with the fourteenth week of disability, provision for the victims of accidents during the first thirteen weeks being made out of the illness insurance funds to which employees are compelled to contribute the larger share. The great merit of this system is that it gives German employers the strongest incentive to lessen to the greatest possible extent the frequency and seriousness of accidents. Since every accident means expense to the employers' associations, these bodies have taken the lead in organizing museums of safety, maintaining staffs of inspectors to advise employers as to the latest safety devices and encouraging through prizes and other rewards those of their members who show the lowest proportion of accidents in their plants.

A second system of providing against industrial accidents was inaugurated by Norway in 1894. In that country em-

ployers are required to pay premiums based on the number and wages of their employees and the degree of hazard in their industry into a state insurance fund, from which the compensation prescribed by the law is paid to the victims of accidents or their dependents. The merit claimed for this plan is that it results in an administration guided solely by reference to the best interests of the wage-earners affected. Since the state bears the expense of administration, it is also said to provide the compensation at a minimum of expense to employers.

State Accident Insurance.

The third plan of accident compensation is the so-called Workmen's Compensation system introduced by the United Kingdom in 1897. Under this plan employers are required to pay compensation in accordance with a prescribed scale to the victims of accidents in the course of their employment or their dependents, but are not required to prepare themselves to meet this disability in any particular way. If they desire, they may, of course, insure themselves against this liability in Employers' Liability Insurance companies and most of them do so, but they are under no compulsion to insure, and in case they become bankrupt those to whom they owe compensation have no protection against loss of the sums due them except that which belongs to them as preferred creditors. The merit claimed for this system is that it involves a minimum of governmental interference with the business of the employer.

The Workmen's Compensation System.

All three of these systems, one or other of which has now been adopted by every important country of Europe, impose the expense of accident compensation upon employers rather than upon the wage-earners themselves. The justification of this policy is that the loss to wage-earners resulting from the accidents of industry should be regarded as an expense of production which the employer should bear as he bears the other expenses of production and which, since the burden falls on all employers alike, he will be able normally to recover in the somewhat higher prices he will obtain for his goods. Moreover, responsibility for making safe the conditions under which industry is carried on must be placed squarely on the employer, if due regard is to be paid to the

Argument for Compensation Principle.

proper protection of life and limb, and there is no way of accomplishing this more certainly than by causing every injury suffered by his employees, except injuries that are deliberately self-inflicted, or due to intoxication or some other form of flagrant misconduct, to result for him in direct financial loss. Although employers at first opposed this policy, on the ground that many of the accidents that occur are due to the carelessness of their employees, the logic of the situation has compelled them to accept it. In European countries they now very generally recognize that it is their duty to train their workers to greater care and thoughtfulness and to so guard the machines they use and the work places in which they are employed that the number of accidents shall be brought down to the irreducible minimum which arise from the hazards inherent in the industry, and the expense of which should, therefore, be borne by the industry.

Industrial Accident Insurance in the United States.

§ 345. Accident insurance systems were in successful operation in Europe for several years before serious attention began to be given to this problem in the United States. The first important compensation act passed (the New York Act of 1910) was promptly declared unconstitutional by the courts. Under the employers' liability law which had been in operation from an early period the employer was held to be liable to pay damages to the injured employee or his dependents only when the accident was due to the employer's own negligence. Proof of such negligence was hedged about by so many technical defenses that in practice it was possible to collect damages for only a small proportion of the accidents that occurred. In retaliation, in those cases in which the employer could be charged with negligence sympathetic juries had fallen into the habit of awarding verdicts so high as to make the system little less expensive for the financially responsible employer than the more humane and rational compensation systems of European countries. Notwithstanding these acknowledged defects, the New York Court of Appeals held that to require the employer to pay compensation, even to a rigidly limited amount, in cases in which the accidents were not due to his negligence was " taking his prop-

erty without due process of law " and, therefore, unconstitutional.

The Constitutional Obstacle.

That this interpretation of the " due process " clauses of the state and federal constitutions was not universal was soon demonstrated by a directly contrary decision of the Supreme Court of the state of Washington. That state passed in 1911 an act requiring employers to pay premiums into a state accident insurance fund out of which compensation, in accordance with a legally prescribed scale, should be paid to the victims of industrial accidents or their dependents in accordance with the Norwegian plan. In upholding this law as constitutional the Washington court took direct issue with the New York court and held that requiring employers to contribute toward the compensation of accidents which were not due to their negligence was not " taking their property without due process of law."

Elective Systems of Compensation.

Deterred by the New York decision most of the twenty-two states which have thus far (1913) substituted the compensation system for the discredited employers' liability system, have arrived at the result by indirect means. Instead of *requiring* employers to pay compensation to all employees injured in their service or to contribute to insurance funds for this purpose, they have swept away the technical defenses which they might oppose to damage suits in accident cases and at the same time *permitted* them to escape the heavier liability which this would entail by substituting for their employers' liability a regulated compensation system in which all of their employees, irrespective of the cause of the accident, might share. Dissatisfaction with this subterfuge has caused Ohio and California to amend their constitutions expressly to permit the enactment of accident compensation insurance laws. Through judicial decisions in harmony with that of the court of Washington or constitutional amendments it seems likely that American state legislatures and Congress will soon be enabled to deal with the industrial accident problem unhampered by constitutional limitations.

§ 346. Although the system of accident compensation that was at first adopted in American legislation was that of the United Kingdom, it is already evident that preference will

Policy Advocated for the United States.

in future be given to one of the other plans—compulsory insurance through employers' mutual associations or through a state department. For large industrial states which are comparable in the number and variety of their industries with the German Empire the employers' mutual accident insurance association plan has much to be urged in its favor. As in Germany, it should serve to cause employers to reduce accidents to the lowest possible point. At the same time, provided that a state insurance department were empowered to review authoritatively all decisions in reference to the compensation to be paid, it should be a satisfactory means of providing for the victims of accidents or their dependents.

In the smaller and less developed states, the system of state insurance would be preferable, since in many industries there would not be enough employers to maintain a mutual association and the expense of administering a number of small associations would be unduly burdensome in comparison with the cost of a simple state insurance department. On these grounds, it seems probable that many of the Western and Middle Western States will follow the example of Washington, while several of the larger industrial states will accept the German system as their model, perhaps maintaining a state insurance department as an alternative for employers who for any reason do not wish to belong to mutual associations.

As time goes on, both of these plans, if limited by state lines, are bound to prove unsatisfactory. Varying scales of compensation and varying methods of meeting the compensation obligation in adjoining states will prove vexatious to competing employers whose businesses extend beyond the limits of the states in which their plants happen to be located. The only remedy for the confusion growing out of the diversity of state legislation is the substitution of national legislation prescribing a national system of accident compensation insurance. Whether this can be introduced without an amendment to the Federal Constitution is a question on which there is some difference of opinion. That it will be introduced, however, even though an amendment prove necessary, is rendered probable by the fact that the United States is

becoming every year a more homogeneous country whose industries and industrial problems have ceased to be merely state and local and become truly national.

Germany's Compulsory Illness Insurance System.

§ 347. Even more serious than industrial accidents as a cause of interrupted wages are illness and premature death. Germany, as already stated, introduced a system of compulsory illness insurance in 1883 as a preparation for her compulsory accident insurance law of the following year. The German plan of illness insurance as it has been amended and extended since * now applies to all wage-earners receiving 2000 marks or less a year and embraces over two-thirds of the gainfully employed persons in the Empire, or about 19,000,000 individuals. The obligations to see that their wage-earners are provided with insurance cards rests on employers. They must purchase illness insurance stamps from the Post-Office and see to it that each week stamps equal to the required premiums are attached to the cards of all of their employees. They themselves must pay one-third of the cost of these stamps, while they may deduct the other two-thirds from the employee's wages. The cards thus serve as proof that the required premiums have been met and that the owner is entitled to the insurance benefits provided by the law. The actual administration of these benefits is through six different types of sick-benefit organizations which are supervised by the Imperial Insurance Office but actually managed by committees representing employees, employers and disinterested citizens.

Benefits Provided.

The benefits provided are substantial. They include: (1) free medical attendance, medicines and needed appliances, such as spectacles, artificial limbs, etc.; (2) half-wages after the third day of illness and continuing, if necessary, up to a total period of 26 weeks; (3) free admission and care in a hospital when this is deemed necessary; (4) twenty times the average wages as a funeral benefit when the illness results fatally; (5) a special benefit for women members for six weeks after confinement; (6) small pensions for surviving widows and children. To these, other benefits may

* The whole social insurance system of Germany was codified in a Consolidation Act passed in 1911.

be added by illness insurance organizations, which administer their funds so wisely that they can afford it, or by employers who are humanely disposed. Large employers, like the well-known Krupp Company, take a special pride in making much better provision for their employees than the compulsory insurance law requires.

Statistics of Illness.

As a result of the operation of this system the German Empire now has very full statistics with reference to the prevalence of illness in that country. On the average it is found that there are eight days of illness in each year for every insured person. The total number of days' illness in a year compared with the total number of deaths indicates that on the average three persons are continuously ill for every one who dies. Although this proportion of reported cases of illness has grown considerably since the system was first introduced, owing some critics say to the prevalence of simulated cases of illness, the death-rate among the insured was reduced from ten in every thousand in 1888 to 7.8 per thousand in 1907.

The British National Insurance Act.

§ 348. The best proof of the success of the German system of compulsory illness insurance has been its imitation by other European nations. The latest country to follow Germany's example in this field was the United Kingdom through its National Insurance Act, which took effect July 15, 1912. Under this act every employee earning less than £160 a year must be insured against illness, a requirement which will, it is estimated, bring 14,000,000 wage-earners under the system. As in Germany, employers are required to buy insurance stamps from the Post-Office and attach them each week to the cards which all employees must have. The employers' contribution is relatively larger than in Germany, being three pence a week for each employee together with an additional four pence for male and three pence for female employees which may be deducted from wages. When the wages are very low the employers' share is made proportionately larger with a view to discouraging the sweating system.

Benefits Provided.

Out of these small premiums supplemented by contributions from the public treasury the following benefits are provided: (1) free medical treatment, medicines and needed ap-

pliances; (2) ten shillings a week for men and seven shillings six pence for women during the period of illness up to 26 weeks; (3) admission to a hospital or sanatorium when prescribed; (4) a maternity benefit of thirty shillings for the wife of an insured man or an insured woman at time of her confinement; (5) a disablement benefit of five shillings a week after 26 weeks if disability continues.

As the British system is simpler than the German in requiring flat premiums and providing uniform benefits irrespective of wages, so its administration is more centralized. It has not been in operation long enough to justify any statements as to its success, but already some of those who originally opposed it have become its supporters. The feature of the system that is most commendable is the liberal provision made (not less than £1,000,000 each year) for the erection of needed hospitals and sanatoria. In the United Kingdom, as in Germany, emphasis is rightly placed on the prevention of illness and death as more important even than humane care of those who suffer from these evils.

Germany's Compulsory Old Age and Invalidity Insurance System.

§ 349. Even more heart-rending often, if less common, than industrial accidents or illness, are interrupted earnings and poverty due to old age. In harmony with her general policy, Germany in 1889 introduced a system of compulsory old age and invalidity insurance to cope with this evil. Under this plan, which is administered by the government itself, every employer must see that every employee from the time he attains his sixteenth year is provided with an old age and invalidity insurance card. To this he must attach stamps covering the required premium each week, paying one-half of the cost of the stamps himself and taking the other half from the employee's wages. From the funds secured through the sale of these stamps, small annuities are paid to all wage-earners from their seventieth year on and to others who become totally incapacitated at an earlier age. The premiums are very low, only from $3\frac{1}{2}$ to 9 cents a week according to the rate of wages, and the annuities are correspondingly small, averaging only about $40 a year, to which the government adds $12.50 for each pensioner out of the imperial treasury. This small but certain provision, however, relieves

the aging German wage-earner of his two gravest fears—the almshouse and the pauper's grave. Since the payments are made to all they have no tendency to discourage individual thrift; they simply insure a bare living income to every person who has passed the period of wage-earning capacity.

Other Methods of Providing for the Aged Poor.

§ 350. Other countries which have made provision against old age have preferred either gratuitous old age pensions (Denmark, 1891) or a combination of assisted old age pensions and insurance (France, 1908). After a prolonged study of the problem the United Kingdom in 1908 adopted the first of these plans. Under the Old Age Pension Law of that year every wage-earner who has reached the age of seventy, after having lived in the United Kingdom during the twenty years preceding the date of application, and who can satisfy the authorities that his total yearly income from other sources does not exceed £31 10s. ($157.50), that he has not failed to work according to his ability, opportunity and need, for the maintenance of himself and his family, and that he has not within ten years been convicted of a prison offense may obtain a state old age pension. The maximum pension is only five shillings a week, which is reduced, depending on the income from other sources, to as little as one shilling a week. In other words, the British government undertakes to provide a bare living income to meritorious and necessitous old persons and by so doing to relieve them from the disgrace of becoming paupers.

Conclusion.

There is difference of opinion among advocates of collective provision for old age as to whether the German system of compulsory insurance or the British system of gratuitous state pensions is to be given the preference. The objections to the German system are that it is cumbrous and costly to administer, that the burden it imposes on employers, who are in no wise responsible for the fact that their employees grow old in their service, is indefensible, and that the view that the enforced contributions it entails serves to inculcate thrift is illusory. Against the British system it may be urged that it involves a heavy financial burden on the state, that it discourages thrift since it benefits only wage-earners who have failed to make adequate provision for their old age

themselves, and that it merely adds a new class of virtual paupers to those who were previously cared for through the workhouses. Balancing these considerations against each other, it would seem that the system of compulsory insurance is more in harmony with the ideal of preserving the ambition and self-respect of wage-earners than the system of gratuitous pensions. The demoralizing consequences of lavish military pensions in this country should put us particularly on our guard against deciding too hastily to introduce old age pensions into the United States.

Difficulty of Insuring Against Unemployment.

§ 351. The last misfortune to be provided against through social insurance and the one that presents the greatest difficulties is unemployment. Simulation, pretending to be the victim of the misfortune that is provided against, is an obstacle to the efficient administration of all plans of social insurance. The victims of industrial accidents may magnify the extent of their injuries or prolong unreasonably the duration of their disability. Illness is still easier to simulate. Even old age must be proved and wherever proof is required opportunity for fraud is admitted. But the difficulty of detecting impostors and preventing frauds against the insurance funds is slight in connection with these misfortunes as compared with unemployment. There is nothing easier to imitate than a person anxious to work but unable to find employment, and an escape for a time from the drudgery and monotony of many kinds of employment, is so welcome, that provision of living incomes for the unemployed presents a temptation that it is difficult for some wage-earners to resist. Obviously any plan of insurance against unemployment must be supplemented by means for applying rigidly the work-test to all those who seek to benefit from it. The obvious difficulty of applying this test on an adequate scale has been the chief circumstance that has thus far deterred Germany, the pioneer in all other fields of social insurance, from attempting to introduce insurance against unemployment.

The Ghent System

While no Continental country has ventured to establish a national system of insurance against unemployment, several European cities have done so. The most famous attempt

of this kind is the plan devised by the Belgian city of Ghent and commonly known as the "Ghent system." The essence of this plan is that the administration of the insurance is left to trade unions which themselves make substantial contributions out of the dues of their members to unemployment benefits for them. These benefits are increased by appropriations from the public treasury justified on the ground that if the city does not help to provide for the necessities of the unemployed and their families in this way, it will be forced to do so in the more humiliating and demoralizing form of poor relief. The contributions required from the trade unions give them the strongest incentive for preventing fraud against the fund, and since the members of a union know one another and can usually judge whether a fellow member is deliberately loafing at the expense of the fund, the administration is fairly economical and efficient.

Unemployment Insurance System of the United Kingdom.

§ 352. Influenced by the success of the Ghent experiment, the British government resolved to seek a national solution for the evil of unemployment. The first step was the organization of a chain of free employment bureaus connecting the labor markets of every corner of the Kingdom into an organized unit designed to bring together, however far they might be separated, the manless job and the jobless man. At the time this is written (April, 1913) as many as 450 of these employment exchanges have been provided for and they have become the most important agencies for supplying employers with additional hands and unemployed men, women and children with employment. Since distances in the United Kingdom are short these connected labor exchanges should serve to reduce unemployment to a minimum. Surplus workers in localities in which industries are slack can be diverted to other localities where the opportunities for remunerative employment are better. Moreover, through the data collected and published through these exchanges the educational authorities in the Kingdom are for the first time provided with the requisite information about the industrial opportunities which the country affords on which to base wise plans of industrial education and vocational guidance.

Equipped with these employment exchanges Parliament

included in the National Insurance Act of 1911 the requirement that employers in certain designated trades, embracing some 2,200,000 wage-earners, must see to it that each of their employees was provided with an unemployment insurance card. To these each week they are required to attach five penny unemployment insurance stamps supplied by the Post-Office, contributing one-half of the cost of them from their own pockets and deducting the other one-half from wages. Employees presenting cards showing that the premiums have been regularly paid and proof that they have sought in vain for work may apply to the appropriate authorities for unemployment benefits. The benefit is only seven shillings a week and may be continued for no longer than fifteen weeks in any one year, but will, it is believed, suffice to encourage trade unions through their own funds to pay supplementary benefits and thus protect the wage-earners included and their families from outright destitution. To prevent fraud against the fund every employee applying for a benefit is required to register at the nearest employment exchange. Through it the sincerity of his desire to secure work can be tested, since there are always some calls for workers and these may be directed toward the applicants for work whose good faith is in question or who have been longest in receipt of payments from the fund. As the success of the plan is demonstrated it is proposed to extend it gradually to other trades until a large proportion of the wage-earners of the country is protected. Since this is the first national attempt to cope with the evil of unemployment through insurance, its operation is being followed with keen interest by economic students all over the world.

Future of Social Insurance in the United States.

§ 353. Except as regards industrial accident insurance, the United States has not yet made a beginning in the field of social insurance. This backwardness has been due in part to the smaller need of such measures for American wage-earners with their relatively higher wages, but even more to a general distrust of policies calling for a large measure of governmental interference and to sheer indifference. Signs are not lacking that fuller knowledge of the sufferings which fall to the lot of American wage-earners in consequence of

the misfortunes that have been enumerated is leading to a more sympathetic interest in such policies. European experience is now rich with lessons as to what may and what should not be done in substituting collective provision for these evils for the quite inadequate individual provision on which we have heretofore relied. As these lessons are learned, comprehensive systems of social insurance comparable with those of Germany and the United Kingdom are sure to be devised for the United States. While they are in the experimental stages, there are obvious advantages in having their operation limited to single states. As they are perfected, however, the greater economy, efficiency and uniformity of a national system of social insurance will suggest the desirability of federal legislation in this field. Thus in connection with social insurance as in connection with other economic and social reforms, we must be prepared for an extension of the powers and duties of the Federal Government. It is doubtful whether this can be accomplished without an amendment to the Federal Constitution, but as the income tax amendment demonstrates, this is an obstacle that can and will be overcome, so soon as the need for the change has been made clear to a sufficient number of intelligent citizens.

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CHAPTER XXXIII

SOCIALISM

Socialism.

§ 354. The plans of economic reform that have been considered in previous chapters would modify but little the most characteristic features of our present industrial system —freedom of individual enterprise and private property in the instruments of production. Socialism, the plan of reform we are now to consider, proposes to do away with these features by substituting for private management of industry state management and for private ownership of the instruments of production collective ownership. Although these changes are economic and are urged usually on the basis of economic reasoning, socialism is more than a mere plan of economic reform. From the point of view of many of its advocates it is primarily a great plan of moral reform. It proposes to establish economic and social relations on a basis that will encourage all human virtues and at the same time discourage selfishness, greed, vanity and ostentation. Thus it is to many not only an economic program but a religion, the religion of humanity seeking for heaven not in the vague hereafter but here on earth. In this chapter it will be possible only to describe its growth and present importance and to indicate some of the most serious difficulties in the way of its realization.

The Utopian Socialists.

§ 355. Modern socialism made its first appearance as a protest against the evil consequences of the factory system and of capitalistic production. Saint-Simon (1760-1825) and Fourier (1772-1837) in France and Robert Owen (1771-1858) in England urged their fellow countrymen to turn their backs on the crass materialism about them and to join together in the attempt to reorganize industrial society along fraternal lines. Their projects were utopian and they are usually called utopists, not because many of their plans and ideas

were not admirable but because they greatly underrated the difficulties in the way of their execution. Of the numerous communities that were organized by their followers in different parts of the world, all but one or two proved failures. The only permanent results of their endeavors were the launching of the coöperative or copartnership movement described in Chapter XXXI. and the clear demonstration that efforts to reform industrial society in any fundamental way must prove abortive without the aid of society's most powerful organ, the state or government.

Socialism of Karl Marx.

§ 356. The series of political revolutions which began in Europe in 1830 was associated with the second phase of the socialist movement, so-called revolutionary socialism. Louis Blanc (1813-1882) was the leader of this new movement in France, but it has owed its strength chiefly to Karl Marx (1818-1883), whose monumental work *Das Kapital* is not incorrectly described as the "bible of socialism." Karl Marx was the son of cultured Jewish parents, and combined with thorough university training in law and philosophy, profound sympathy with the democratic movements of his day. Exiled from Germany because of his radical opinions and declarations, he lived for the greater part of his life in London, where he formulated the system that has since come to be known as "scientific socialism."

Its Basic Principle.

The basic principle of this system is the materialistic, or economic, interpretation of history. The institutions and standards of each historical period are, Marx thought, determined by the prevailing system of production and distribution. Through the industrial revolution, he believed, an irrepressible conflict of interest has arisen between capitalist-employers, who own the instruments of production, and wage-earners who depend upon capitalists even for the opportunity to work. This conflict, or "class struggle," will, he thought, become more and more acute, since "capitalistic production," as he conceived of it, tends inevitably toward greater and greater concentration of ownership on the one side and toward greater and greater misery for the "exploited" wage-earners on the other. The only possible outcome of such a struggle, he predicted, is a social revolution.

Wage-earners, the "proletariat," will finally rise in their might and forcibly take over the instruments of production from their oppressors and the socialist state will be born. The coming of socialism is thus, in his opinion, inevitable. With this conviction, he conceived it to be his task to prepare men's minds for it by his teachings and to organize the proletariat for the responsibilities that would rest upon them when control of the socialist state of the future should come into their hands.

Other Theories.

§ 357. In addition to the materialistic interpretation of history, the class struggle and the inevitable social revolution, Marx advanced the theory of surplus value and the over-production theory of economic crises as further elements in his system. He accepted from the English economist, Ricardo, the view that value tends to be in proportion to the quantity of labor necessary to the production of a commodity. Since it was clear that only a part of the value of the products of industry was actually turned over to the workers to remunerate them for their toil, he maintained that capitalistic production involves constant exploitation of wage-earners. They receive of the values they produce only enough for their subsistence; the remainder, the "surplus value," goes to their capitalist-employers in consequence of the fact that the latter control the instruments of production, land and capital goods, without which the wage-earner cannot earn even his necessary subsistence.

The Marxian theory of crises is that unregulated competition causes capitalist-employers, in their greed for profits, to add constantly to the volume of products which they put upon the market. Since the consuming power of the masses is limited by the subsistence wages which they receive, production tends constantly to run ahead of consumption. As a result, there is a heaping up of unsold and unsalable commodities until a crisis is reached. Prices then drop to a point which makes further production unprofitable. Widespread depression and unemployment ensue and only after a drastic process of liquidation, which forces the smaller and weaker employers into the ranks of the proletariat, can industry be resumed. The same vicious round is then repeated, each

crisis serving to widen the gulf between the capitalist-employers who survive and the proletariat and to hasten the coming of the inevitable social revolution and the launching of the socialist state.

Criticism of Argument of Marx.

If the strength of socialism depended solely on the truth of the principles which Marx so ably explained and defended, the movement would have long since lost its significance. Every one of these principles has been refuted time and again by other writers, and even the loyal followers of Marx now very generally admit that at important points his scientific system was defective. The materialistic, or economic, interpretation of history still has many supporters, but all now agree that its connection with belief in socialism is entirely accidental. There are many socialists, notably the "Christian socialists," who regard the notion that men are dominated in their actions wholly or chiefly by economic motives as monstrous, and who base their whole faith in the possibility of socialism on the hope that men will come to be controlled more and more by moral and religious motives. On the other hand, there are believers in the economic interpretation of history who think they see clear evidences that the democratic movement of the nineteenth century is to be succeeded in our day by a reaction in the direction of aristocratic and even monarchic institutions. Belief in the coming of socialism is thus not the consequence of acceptance of the materialistic interpretation theory but of applying that theory in a particular way.

The applications which Marx made in his theories of class struggle and of the inevitable social revolution are the real tests of his system. But neither of these theories is tenable. That society is divided into classes with conflicting interests is obvious. That at times these diverse interests give rise to so great friction that the situation is accurately described as a "struggle" must also be admitted. But that society is now dividing into two great classes, capitalists and proletariat, the one growing numerically smaller, as it grows richer, the other numerically larger, as it grows poorer, as Marx believed, is directly contradicted by all of the statistical evidence. The size of individual fortunes is undoubtedly in-

creasing as the wealth of the world increases, but in all countries the *proportion* of the people that accumulates some property is growing relatively to the proportion of those who "have nothing to lose but their chains"—to repeat the famous phrase of Marx's *Communist Manifesto.* If it is only through the intensification of this phase of the class struggle that the social revolution of which Marx dreamed is to be brought about it is not only not "inevitable" but every year is making it more improbable.

True Significance of the Class Struggle.

Nor can the prominence which Marx ascribed to class struggle in shaping human destiny be justified either historically or logically. The social groups to which each individual belongs are numerous and each has claims on his interest and loyalty. The highest claim of all, as is proved in times of national stress, is that of country. Americans may be capitalists or proletarians in their economic relations, but those that count are first and foremost Americans. Instead of growing weaker with the progress of time this tie of common citizenship in a common country gives every evidence of growing stronger. And as it grows stronger the common government will be less and less subservient to narrow class interests, more and more heedful of common social interests. If socialism ever comes it will be not through a social revolution, but through the gradual expansion of governmental functions in the effort to protect and promote common interests. That such an expansion is now going on no one can deny. If this continues until the ownership of instruments of production and the direction of business activities have been taken over by the state, it will be because public opinion has been gradually brought to believe that such a course is required by public policy.

Criticism of Theory of Surplus Value.

§ 358. Even more clearly fallacious are the Marxian theories of surplus value and of over-production as the cause of crises. It is a fundamental error in analysis to ascribe the value of the products of industry to the labor involved in their production. Value, as already explained, is the joint result of utility and limitation of the supply. Under conditions of free competition value arises because of the cost involved in producing goods. This varies under different

natural conditions and, consequently, rent appears. Under the least favorable natural conditions resorted to cost includes not only labor, but also the waiting involved in supplying the capital indispensable to efficient production. The value of the product must be great enough to remunerate workmen *and* capitalists, or the inducement which causes those at the margin of doubt between saving and spending to save will be removed and the fund of capital will be reduced. The payment of interest is economically as necessary as the payment of wages. It is the premium industrial society offers to those who will furnish it with the capital it needs. It is true that much of the needed capital would be furnished if there were no premium, but it is equally true that many workmen, and especially those whose work is of most value to society, would work for nothing rather than abandon their chosen professions. In each case the reward is determined by the character and motives of the marginal men in the group affected. In each case, moreover, the necessity of rewarding these marginal men gives a value to the product sufficient to reward at the same rate all men in the group. The interest capitalists receive is in no sense subtracted from the reward that goes to labor. It comes from the extra product due to the assistance which capital goods render to production, just as the wages of labor come virtually from the products of labor. In neither case is there any exploitation of one factor by the other. The whole contention on which the theory of surplus value rests is thus without scientific justification. Unsatisfactory as the present industrial system undoubtedly is at many points, it is at least cleared of the charge of being based on the legalized robbery of the laboring by the propertied class.

The Theory of Crises.

The over-production theory of crises errs by arguing that what might happen if business men acted with sole reference to immediate profits necessarily will happen. Warned by the experience of the past business men are more and more on their guard against carrying production beyond the consuming power of the community. Instead of becoming more frequent and more severe as Marx thought must be the case, crises appear to be a diminishing evil. It is now generally acknowl-

edged that they are due more to over-expanded credit than to over-production. As credit machinery is rendered more perfect there is reason to hope that production may so adjust itself to consumption that the violent crises that were frequent in the nineteenth century will be less common in the twentieth.

Reasons for Progress of Socialism.

§ 359. Notwithstanding the fact that most of the theories and generalizations of "scientific socialism" no longer command the unquestioned assent even of thoughtful socialists, the socialist movement itself seems to be steadily gaining strength and volume in every progressive country. This is because the vivid and eloquent portrayal of the defects in the existing industrial system in *Das Kapital* and other socialistic writings convinces an ever widening circle of readers of the need of a social revolution and because the socialist state seems to offer as promising a means of escape from present evils as any that has been suggested. It would be a mistake, however, to assume that all those who vote the socialist ticket in countries where socialist parties have been organized go farther than to sympathize with the socialist position on certain of the issues of the time. A large part of the socialist vote is merely a vote of protest against some of the conspicuous evils and abuses of the day. As these evils and abuses are corrected the citizens registering this protest will, many of them, fall back into more conservative parties. Thus as progress toward the goal of socialism is made it is highly probable that, after a certain point has been reached, the strength of socialist parties will begin to wane and reform will be sought in a different direction than that of a further increase in the functions of the state.

Strength of Socialist Parties.

Making full allowance for this consideration, the growth of socialist parties all over the world remains one of the most significant political developments of the recent past. The socialist party of Germany, the social democrats, cast only 312,000 votes in the election for members of the lower house (the *Reichstag*) in 1881 and elected only twelve representatives. This vote increased steadily until in the election of 1912 the enormous total of 4,250,000 social democratic votes were cast—more than one-third of the total votes in the election—and 110 representatives were returned. But

for the German system of plural voting, against which and the enormous war expenditures this large vote was in part a protest, the social democrats would now largely control the German government. In no other European country has increase in the socialist vote been so marked as in Germany, but in France a socialist, Aristide Briand, has held the office of Prime Minister, while in the United Kingdom another socialist, John Burns, has risen to an important post in the cabinet. Meantime in the United States the socialist vote increased from 21,164 in the presidential election of 1892 to 826,038 in that of 1912, and a socialist, Victor Berger, has held a seat in Congress (1911-1913).

Advantages Claimed for Socialism.

§ 360. Although cautious socialists usually refuse to commit themselves to any very exact account of how the socialist state of the future is going to operate, others, like Edward Bellamy in his book, *Looking Backward,* have been more daring. In order to come to any conclusion with reference to the future of socialism it is necessary to weigh carefully the arguments of those who advocate it.

The advantages claimed for socialism are both economic and moral. In contrast with the present system of production, which is wasteful and haphazard, it contemplates a system under which the economic needs of the community will be accurately estimated and the available land, labor and capital carefully apportioned, so that just that quantity of each kind of good that is required will be produced. The duplication of plants and the excessive production of particular goods that are now so common, will be avoided, the expenses of advertising and competitive selling will be saved and, finally, the production of goods that are harmful rather than beneficial to those who consume them will be suspended. As a consequence of these improvements on present practices there will be, it is claimed, an immense saving of productive power, which may be utilized to add largely to the volume of goods produced, to shorten the hours of labor or to combine both advantages to the benefit of mankind, both in its consuming and its producing capacity.

The moral advantages claimed for socialism are even more noteworthy. Instead of depending upon self-interest as a

spur to industrial activity, socialism relies upon the love of activity for its own sake, the desire to contribute to the common good, the sense of duty in the performance of tasks that are largely voluntary and the ambition to win social esteem and social distincton through conspicuous social service. It is labor copartnership extended and systematized to embrace the whole industrial field and has the same moral advantages over competition as has conscious coöperation. Under socialism all men would live literally as brothers, sharing in the common toil and enjoying each his portion of the fruits of that toil.

Difficulties to be Overcome by the Socialist State.

§ 361. That this picture of an industrial society in which all men live like brothers is attractive no right-thinking person will deny. Students of economics must go farther, however, and ask seriously whether it is an ideal that can be realized. Unless the motives on which socialism must depend will cause men to be as industrious and efficient as they now are under the spur of self-interest, the change may be one decidedly for the worse rather than for the better. Dogmatizing as to motives which confessedly are now only partly developed would be profitless, but the following doubts are suggested for such consideration as they may seem to merit. Men as they are are fond of activity for its own sake, beyond question, but not usually of the sort of activity for which they are best fitted in their rôle as producers of wealth. If this motive were alone to be depended upon, not ten in a hundred would be likely to declare themselves in favor of any useful forms of activity whatsoever. The other ninety would probably content themselves with pure play, finding their gratification in it partly for the very reason that it is entirely dissociated from any productive result. The desire to contribute to the common good would, doubtless, hold a larger number to the tasks best suited to their capacities, but the slight extent to which this desire is developed must impress any one who observes the conduct of people toward forms of public property, like parks and monuments. The horizon of the average man is still painfully limited and the sacrifices he is willing to make for the vague public beyond his family and immediate circle of friends are small,

except at times when his feeling of patriotism is appealed to by some grave national peril. The sense of duty is also a motive that could not safely be relied upon to hold many men to the monotonous daily round which is necessary to efficient production in most departments of industry. Finally, the desire for social esteem and social distinction, which is certainly strong in the average man, is neutralized as a motive to industrial activity because in practice public opinion is very undiscriminating in its judgments. It rarely accords applause where and at the time applause is due, and it is very apt to reward with its approval quite unworthy candidates for its recognition. Some system of graded honors, like decorations or titles, might be devised, similar to those already in vogue to reward men for signal services on the field of battle, but that these would hold the rank and file of the industrial army to their tasks in the absence of other incentives will hardly be claimed by any one. It is believed that these considerations admit of but one conclusion, namely, that the motives to industrial activity on which socialism relies are all too weak and that some form of compulsion would have to be called in to supplement them if the system was to be put into practical operation. But compulsion is tyranny, and whether practised by a selfish despot or by an enlightened majority seeking only the general good, must react unfavorably on the characters of those concerned in it. Until socialism can be realized without it or without more of it than is now necessary to keep the enemies of society in order, its moral superiority over the present competitive system may well be questioned. At some future time, when men and women of a higher type compose society, socialism may prove practicable, but it does not seem to be adapted to men and women as they now are. And, it may be added, when human beings are so perfected that the motives on which socialism relies are dominant, it will make little difference what form of industrial organization is adopted. Competition among such individuals will be, as it now is at its best, merely a generous rivalry between upright and fair-minded men, tempered by regard for the interests of others and restrained by legal prescriptions. Such competition might re-

sult in industrial relations as ideally perfect as those pictured in connection with socialism, and if these relations do not now prevail it is not chiefly because of the industrial system under which we live, but because of the imperfections of the men and women who compose society.

Other Criticisms.

§ 362. Although less serious than the psychological obstacles to the realization of socialism, the administrative obstacles are sufficiently formidable. A few of them only will be referred to: Assuming a population disposed to give socialism a fair trial and the government in control of all land and capital goods, a first difficulty would be in connection with the assignment of occupations to individual citizens. The interests of production would require a certain quota of workmen in each department of industry. But how, in the absence of compulsion, could these quotas be secured? Under the present system the division is accomplished by the simple operation of the law of demand and supply. Branches of production that are inadequately manned attract more workers by offering them somewhat higher wages than are paid in other occupations. What corresponding inducement would be offered under socialism? Is it not probable that in the absence of compulsion or of wages apportioned to the competitively determined value of the services rendered, certain employments would attract many more workmen than were needed while others would be avoided? One writer has suggested that the distribution of the available labor force could be accomplished by shortening the hours of employment in unpopular occupations until they attracted their quota of workmen. This might prove a workable solution of the difficulty, but its practical operation would involve obviously a high order of administrative ability on the part of the directors of the nation's industries.

A second difficulty concerns the determination of the exchange values of different economic goods. Since these are produced on government account quite independently of markets and the higgling of markets, such determination would have to be made through the application of some administrative rule. One rule that has been proposed is that each good be valued in proportion to the labor time in-

volved in its production. But how could such labor time be measured? What quality of labor should be selected as a standard? Should the product of a day's labor of a talented artist be valued the same as the products of the labor of a machine tender? If so, will there not be a continuing discrepancy between the demand for and the supply of artistic products? Shall no allowance be made for the part which land and capital goods play in production? The bare statement of these questions suggests the complexity of the problem which would confront the government in connection with the mere valuation of the products of its farms and factories.

A third difficulty concerns the decision as to the quantities of different goods to be produced from year to year, and especially as to the proportions of the labor time of the community that should be devoted to the production of capital goods and of consumers' goods, respectively. Each community would have it in its power to neglect entirely the interests of the future by failing to replace or add to its stock of capital goods, or to provide abundantly for future requirements by devoting all the labor time not needed for the production of current necessaries to the production of such goods. What principle could guide government officials in deciding wisely on this all-important question? Would they not, as elected officers, be under a constant temptation to win popular favor by adding to the current supplies of goods at the expense of the fund of capital?

Finally, there would be the difficulty of deciding as to the relative merits of different methods of production. If progress were to continue, improvements on current methods would be constantly necessary. How much labor time should be diverted from the routine of production along old lines to industrial experiments? Who would determine when an experiment in a given direction should be abandoned as barren of result? Who would say when an old process and old machinery should be given up and a new process and new machinery substituted? In actual industrial society these questions are answered crudely, but effectively, through the impartial operation of competition. The best process usually

wins in the long run because it pays best. Would the best process be as likely to be preferred under socialism?

Many other difficulties might be suggested, but enough has been said to indicate the puzzling problems that would confront the directors of a socialistic state. These problems may in some remote future be successfully solved, but it is safe to predict that socialism will not become a practical program of economic and social reform until the average citizen has developed a very different attitude toward public questions than he now displays nor until political machinery has been devised for securing and keeping in office public officials of much higher character and capacity than are commonly found among the elected officials of to-day.

The Attitude of Socialists.

Most socialists are disposed to make light of these difficulties and to declare that their concern is not with the socialist state of the future, which they believe will be quite able to take care of itself, but with the socialist movement of the present. As a means of popular propaganda this method of appealing to the faith rather than to the reason of the convert appears to have justified itself by its results, but it hardly serves to commend socialism to the careful student of economics. In the absence of some evidence that the popular governments of the future are going to display a degree of intelligence and efficiency far superior to that of the average citizens behind these governments, he cannot be blamed for doubting whether the state will ever be able to perform satisfactorily the important duties which socialists would impose upon it and for believing that a large field will continue to be left to private industry and enterprise assisted by private ownership of many of the instruments of production.

Socialists and Social Reformers Compared.

§ 363. Although as regards the ultimate goal of economic progress there is a wide difference between socialists and non-socialists, as regards the next steps in social advance all progressive thinkers on economic problems can make common cause. That progress must be away from the present gross inequalities in opportunity and wealth toward greater equality is the view not only of socialists, but of all economists and social reformers. That a chief means of effecting such progress must be a widening of the functions of the state

in the direction of further limitations on the rights of property and the more rigid regulation of industries is also a conviction widely shared. In fact, there is so little real difference as regards their attitude toward the practical problems of the day between evolutionary socialists and progressive social reformers that it is often difficult to tell one from the other. Consistent socialists cling to the belief that the ultimate solution of our economic problems is to be secured through the socialist state, but they admit that this ultimate solution is remote and that for many generations social reform is the important thing to be striven after. Non-socialists can see no reason to assign such an all-embracing rôle to the state in the industrial society of the future, but agree that there is urgent need of social reform in the present and that all should work together to secure it.

Although based on an incorrect analysis of economic relations in its revolutionary form and looking forward to a future so remote as to have little direct bearing on present-day problems in its evolutionary form, socialism is much more than a mere "philosophy of the unsuccessful" or "vision of deluded dreamers." As an ideal it appeals strongly to many men and women who are neither unsuccessful nor dreamers and it supplies them with an excellent standard by which to criticize the undoubted evils in the present economic situation. Such criticism is both helpful and harmful. So far as it serves to concentrate attention upon definite evils and to foster the belief that they are remediable, it is a valuable aid to constructive social reform. So far, however, as it tends to intensify class antagonisms and to teach wage-earners that they are the victims of legalized exploitation and that they must organize to despoil by force the owners of property who oppress them, it is a bar to true progress. It is reassuring that in the United States, as well as in European countries where socialistic parties are strongest, less and less attention is being devoted in socialistic literature to "exploitation," "the class struggle," etc., and more and more to the real evils of the present day and the remedies that may be immediately applied to them.

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CHAPTER XXXIV

ECONOMIC PROGRESS

The Nature of Economic Progress.

§ 364. Economic progress is improvement in general well-being due either to increased command over economic goods or to reduced costs of production. It may show itself in increased earnings for the laboring masses, in shortened hours of labor or in an increased adaptation of work to the tastes and capacities of workmen. Definite as these criteria of progress appear to be, it is unfortunately true that there are no means of comparing them accurately from generation to generation. Until recently few records were kept of the commodities which families in different circumstances were in the habit of consuming. Even those which are now preserved will be puzzling in many of their details to future economists because the goods consumed will have changed in kind and quality as well as in quantity. The impossibility of making exact allowance for such changes opposes a permanent barrier to accurate comparisons between the standards of living of different periods. Similar difficulties are encountered in trying to gage changes in the sacrifices involved in production. Although it can be shown that the length of the working day has been shortened, it may yet be claimed by the unbelieving that the intensity of labor has increased correspondingly, and there is no certain way of deciding whether or not this has been the case. Under these circumstances the economist must content himself with comparing those objective indications of well-being, such as the rates of wages earned by workmen of different grades, the length of the working day, etc., which admit of measurement and appeal to the judgment of intelligent observers to determine whether these and other changes have really added to human welfare.

Even so simple a question as that whether average wages

have increased or diminished can be answered only after elaborate statistical investigation. In recent years careful studies of wage statistics have been made in many different countries. It will be impossible even to summarize the results of these inquiries in these pages, but it may be asserted confidently that in the United Kingdom during the last one hundred years real wages have increased on the average not less than fifty per cent and that in the United States they have increased nearly, though apparently not quite, as much. As regards hours of labor the evidence of progress in both countries is equally conclusive. The reduction has not been less than two a day, that is, the workday in different employments has been shortened from an average of from ten to fourteen hours to an average of from eight to twelve hours. As regards command over commodities and leisure time in which to enjoy them wage-earners generally are, therefore, distinctly better off to-day than they were a century ago.

Changes in Wages and Hours of Employment.

§ 365. Another method of gaging the extent and direction of economic progress is to review the changes that have occurred in the fields of consumption, production and distribution to determine whether they have been, on the whole, favorable. In Chapter V. we considered the contributions which changes in wants and habits of consumption may make to general well-being. Progress in this field depends upon increasing attention to the laws of variety, of harmony and of least social cost, upon greater economy in consumption and upon the substitution for narrow and selfish luxury of more social uses of wealth. No one can compare impartially these aspects of the life of to-day and of life in the past, from the point of view of the average wage-earning family, without being impressed by the remarkable advance that has been made.

Progress in Consumption.

Even more obvious than progress in consumption is the progress that has been made in production. Invention and discovery have scored triumph after triumph since the first application of steam power to industry, and in every branch of business the productiveness of labor has been largely increased. Other causes contributing to this result have been the opening up to exploitation of new lands and new sources

Progress in Production.

of mineral wealth, the growth of capital, improvements in forms of industrial organization and the development of more capable and intelligent men and women.

When the enormous multiplication of goods that has been made possible by these changes is considered, it may well seem surprising that the condition of wage-earners has not been improved even more than has been the case. To account for this fact we must consider the progress that has been made in the field of distribution.

Progress in Distribution.

§ 366. Progress in distribution results from changes which increase the command over goods enjoyed by the masses. To measure it the earning-power of the bare-handed unskilled workman of one period must be compared with that of the same workman of another, allowance being made for any change in the proportion which unskilled workmen bear to the whole population. The facts already cited indicate that wages have risen substantially, and yet the margin between the necessary expenses of the ordinary laboring family and its earnings is still painfully narrow, even in the United States, the country of high wages.

Reasons Why Wages Remain Low.

The reasons why the average workman still receives such a small return have already been suggested. In the first place, the increased productiveness of industry has been due in large measure to improvements in the capital goods which assist production. The immediate tendency of such improvements is to add to the earning power of capital, rather than to that of labor. This has been neutralized by a remarkable growth in the amount of capital, and the rate of interest must have fallen to a very low level had not population also increased at a remarkable rate. The net result of these changes has been a lower rate of interest on an immensely larger capital fund and a somewhat higher rate of wages for a greatly increased laboring population. A second point concerns the trend of rent. The opening of new lands to exploitation must have raised materially the margin of cultivation and thus reduced the rent fund, had it not been paralleled by the remarkable growth in population just referred to. The older countries of Europe have poured out millions upon millions of colonists to the new lands, but at the same

time, except in the single case of Ireland, they have added substantially to their own populations. In consequence, the margin of cultivation in European countries has been lowered, while the rapid settlement of new countries has caused the better lands and natural resources there quickly to command high rents. Thus the rent fund, like the interest fund, has increased enormously in the aggregate, notwithstanding the fact that the margin from which rents are calculated has as yet been only slightly lowered. A last point concerns the deductions from the social income made because of the monopoly powers of certain enterprisers. There can be no question that a considerable share of the new wealth due to economic progress is enjoyed by those controlling the various forms of monopoly analyzed in earlier chapters. If these monopoly incomes could be diffused either by more general competition, by taxation or by the legal regulation of prices, the earnings of workmen might be higher.

Influence of the Growth of Population.

A superficial consideration of the above tendencies might lead to the conclusion that the growth of population was the chief cause of the persistence of the low earning power of workmen. Undoubtedly, had population increased less while capital increased at the same rate and new lands and natural resources were opened on the same scale, the economic position of the average man would have been much improved, but we are not justified in assuming any such possibility. As a matter of fact, the high rate of interest, which has been a chief influence in encouraging and making possible the remarkable increase in capital, has itself been maintained in the face of such increase, at least in part, because of the parallel growth of population. The growth of population has been, also, a principal incentive to the discovery and exploitation of new lands and natural resources. It has thus stood in a causal relation both to the increase of capital and the settlement of new countries, and speculation as to whether a less rapid multiplication would have been on the whole advantageous to the average man, is idle.

Quite a different question is that as to whether such large deductions from the products of industry for the payment of competitive and monopoly profits, of rent and of interest

are necessary or defensible. It is at this point that radical reformers take issue with conservative economists. In preceding chapters we have considered the most widely advocated plans for securing for the common benefit profits, rent and interest—labor copartnership, the single tax and socialism. We must now examine these shares in a more positive way, to determine in what relation their payment stands to the motives and forces that cause economic progress.

Economic Justification of Competitive Profits.

§ 367. Generally speaking, competitive profits are fairly earned by those who receive them. They are the incentive which industrial society offers to enterprisers to induce them to improve upon current methods of production. To secure them enterprisers compete actively to lower their expenses of production so that they may undersell one another, and the whole community is benefited by the resulting reductions in the costs of production. At times, however, competitive profits are obtained in ways that injure rather than benefit society. Unscrupulous employers may take advantage of the ignorance or necessities of their workmen to depress their wages below the level which permits them to maintain their industrial efficiency. Cheap commodities obtained by this means are all too dear if the best interests of producers and consumers alike be considered. Other enterprisers may undersell their competitors by adulterating their products. Still others may sell their goods for less than their production has actually cost, and by declaring themselves insolvent shift the resulting loss to their creditors. These and other forms of competition give rise to competitive profits for which industrial society receives no adequate return, and no effort should be spared to render them impossible.

Monopoly Profits.

Even more important as sources of large incomes to particular enterprisers are monopoly profits. These, too, are usually secured, at least at the outset, in consequence of improvements that have been made in the methods of production, but they must always be viewed with some suspicion, because they are likely to continue long after the improvements have been adequately paid for. If the monopolies which give rise to them are natural, that is, result from the fact that concentrated management and operation are economical for

the given industries, sufficient monopoly profit to induce enterprisers to organize such industries on a large scale must be left to them if the benefits of monopoly are to be enjoyed. The government may properly interfere, however, in ways that have been discussed in earlier chapters, to prevent excessive monopoly profits. If the monopolies are the result of legal privileges, control over their profits should be exercised as a matter of course by the government which grants such privileges. If they are due to obstacles to the free play of competition, or to unfair forms of competition, the duty of the state to remove such obstacles and put a stop to such unfair practices is clear. Unless the government is zealous in the exercise of its control over monopolies, great inequalities in income are sure to result without any commensurate benefit to the whole community.

Rent and Interest.

§ 368. The payment of rent and interest for the use of pieces of land and capital goods is a natural consequence of the institution of private property in the factors of production. That this institution has played an important part in stimulating economic progress in the past can hardly be questioned. It has served as a constant incentive to the industry and thrift without which no advance could have been made. The principal economic motive of the average man is to provide for the comfort and happiness of his family. To accomplish this object he is willing to work laboriously and to set aside a part of his surplus income as a provision for the time when he can work no more, or as a means to giving his children a better start in life than he has himself enjoyed. But a necessary condition to the accumulation of wealth for future use is that the law shall protect individuals in the ownership and control over their property. Where such protection is lacking little wealth will be accumulated, and of that little a large part will necessarily be expended in safeguarding what is left. On the other hand, the more certain the legal protection afforded to property-owners the larger will their accumulations become and the more ample will be society's resulting equipment of capital goods.

The payment of rent and interest has been explained as a transfer to property-owners of the shares of wealth which

Justification of Rent.

have been produced through the use of their property. Although conceding the accuracy of this explanation, critics may, nevertheless, object to the payment of rent to private landowners as unfair and unnecessary because the qualities in the land for which it is paid are either natural or due to social changes for which landowners deserve no credit. The economist's reply to this contention has been that, while rent does frequently, if not usually, arise from these causes, it is still true that private property in land is the surest means of encouraging the best use of land. To the extent that rents may be diverted to the service of the whole community, without gross injustice to present landowners and without interference with the best uses of land, this reply loses its force and such diversion should be effected by means of taxes. As pointed out in Chapter XXVIII., the time seems already ripe for this change as regards urban rents, but the new policy must in fairness to city landowners be introduced by gradual steps.

Justification of Interest.

The payment of interest is the incentive which industrial society offers to those who will save and invest their incomes, just as wages are the premiums offered to those who will work. So long as men continue to be dominated by the motives which now control them, the one is as defensible, economically, as the other. It is not so much the payment of interest that gives rise to dissatisfaction with the institution of private property, as the unequal distribution of wealth that accompanies it.

Unequal Distribution of Wealth and Its Causes.

§ 369. An unequal distribution of wealth must result from the institution of private property so long as individuals and families differ greatly in earning capacity and in prudence and forethought. Where these inequalities are found some individuals and families will enjoy large incomes, and out of these incomes will set aside for investment large savings, while others will accumulate little or nothing. In some families wealth and the qualities necessary to its preservation will become hereditary, and great fortunes will be passed on from parents to children through several generations. More frequently, if we may judge from the experience of the United States up to the present time, the wealth accumulated in

one generation will be gradually dissipated, either through division among numerous heirs or because those who inherit it lack either the capacity or inclination to keep it unimpaired.

Undesirable as are inequalities in wealth, direct attempts to limit wealth accumulation would, in the author's opinion, be productive of more harm than good. A large and growing fund of capital is indispensable to the maintenance of efficient methods of production and no measures should be adopted that are likely to weaken seriously the motives to saving and investment. The reasons for putting no check on an individual's right to accumulate wealth do not apply, however, to his right to transmit it at death to his heirs. Even though hereditary fortunes may be dissipated after a few generations, it is, nevertheless, true that much of the wealth in existence at any one time has been inherited by those who own it. Limitations on inheritances by means of inheritance taxes are, therefore, effective means of lessening inequalities in wealth among the individuals in each oncoming generation.

Argument for Heavy Taxation of Inheritances.

Of all forms of taxation, inheritance taxes are believed to be the least objectionable. They are easily assessed and collected. They cannot be shifted, but must be paid out of the inheritances on which they are intended to fall. Finally, they impose a minimum burden upon taxpayers, since after they are established they soon come to be thought of as reasonable charges imposed by the state for its services in protecting property and seeing that it passes into the possession of the legal heirs. For these reasons, as well as because they tend to lessen inequalities in wealth, large use should, in the opinion of the author, be made of these taxes as sources of revenue. The experience of other countries indicates that the best results are secured when inheritance taxes are made progressive. Small inheritances should be exempt from the tax. On larger inheritances the rate of taxation should increase by gradual steps until on large fortunes it becomes a substantial deduction, one-fifth or even one-quarter, from the inheritance. If the large revenues that may be derived from this source are used to improve and extend the public

schools, to promote wise plans of social insurance and in other ways to benefit wage-earners and thus to lessen inequalities in fortune at the other extreme, steady progress may be made toward a more democratic distribution of wealth and welfare.

Progress in the Future.

§ 370. The review of the circumstances which have contributed to the economic progress of the past that has been given indicates the conditions upon which the economic progress of the future must depend. Changes in wants and in habits of consumption calculated to increase the gratifications which men derive from goods and to lessen the cost involved in their production, must continue to be made; methods of production must be further perfected by improvements in the capital goods used, by a fuller utilization of the forces of nature, by an increase in the fund of capital, by a better organization of industry and by a steady improvement in the efficiency of the working population; the distribution of the social income must be modified so that the command over economic goods enjoyed by the rank and file in the industrial army will be ever larger.

Function of Trade Unions.

Some of the reforms that will assist toward these ends may profitably be recalled. Isolated workmen often fail to secure the earnings to which they are economically entitled because they do not bargain on terms of equality with their employers. Trade unions are the agencies that must be relied upon to correct these inequalities. So long as they do not try to become close monopolistic associations, but confine their activities to securing the best terms possible for their freely admitted members, they merit all the encouragement and assistance that can be given them. Notwithstanding conspicuous exceptions their general tendency is toward improving the condition of wage-earners and rendering more harmonious and cordial the relations between them and their employers.

Labor Laws.

For wage-earners among whom trade unions can be organized, state interference to prevent the making of socially disadvantageous labor contracts may not be necessary. In the case of great industrial classes, however, nothing but an aggressive policy of interference to establish the plane of competition can serve to protect workmen from unduly long hours

under unsanitary conditions. The codes of labor law already adopted must be extended and perfected, and in time may have to embrace even prescriptions in regard to the minimum rates of pay that will be tolerated in certain employments. Side by side with this policy of regulation must be developed systems of social insurance for caring adequately for the victims of industrial accidents, illness, old age and unemployment.

Regulation of Monopolies.

In certain industries free competition has proved itself incapable of regulating economic relations as the general interest requires. Some industries are monopolies by their very nature, others have become monopolies because of defects in the legal system. In relation to such industries the function of the state is clear. Natural monopolies should be controlled as regards the charges they are allowed to make for the services they render, and sometimes as regards also the quality of these services. When this control can only be exercised effectively through the expedient of government ownership and operation, these should be fearlessly undertaken. Only by such means can the interests of the public be safeguarded and injustice prevented. Monopolies that have arisen because of defective laws or public policies should be attacked through such laws. It is the duty of the state, so long as it continues to permit free competition, to enforce fair competition, and appropriate measures to this end must be devised and put into execution.

Of Housing Conditions.

The same reasons that make factory regulations necessary to the health and safety of factory employees make necessary the effective regulation of housing conditions in great cities. The ignorant and careless who submit to insanitary workrooms will submit as readily to insanitary homes unless the state or city interferes to enforce minimum standards of cleanliness and decency.

Free Public Schools.

Even more important than increased attention to public health is increased attention to public education. For reasons that have been given, parents cannot be depended upon to demand as high standards of education for their children as it is to the general interest that children should enjoy. The state must interfere to provide adequate schools and to com-

pel attendance at such schools, or others of similar grade, and its expenditures for this purpose, so long as they are calculated to improve the educational advantages offered, can hardly err on the side of excess. In the United States the greatest need at the present time is for trade and technical schools to supplement the general training of the public schools and equally free to all classes.

Reform in Taxation.

Space has not permitted an adequate consideration of the subject of taxation, but reasons have been given for the belief that the protective tariff of the United States has outlived its usefulness and the increased taxation of land in cities and of inheritances has been advocated. Reform in the methods of taxation is all the more important because the economic progress of the future is certain to involve a large increase in public expenditures. Public revenues must be secured through taxes which fall as little as possible on the poor, if the benefits derived from public expenditures are not to be largely offset by the curtailed incomes of those whose earnings are already all too small.

Progress Depends on Response of the Individual.

The above are some of the reforms which the author would urge as substitutes for the more radical changes proposed by advocates of land nationalization and socialism. They belong distinctly to the present and the immediate future and need not be deferred to a future so remote that present discussion of them is of doubtful value. If economic progress is to follow from these changes, they must result in steady improvement in the standards of living and of efficiency of the wage-earners in each community. For, at last analysis, every effort to improve conditions which is not registered in the character and capacity of the average individual must prove futile. Unless he responds to the enlarged opportunities that are presented to him, there is no hope of permanent betterment. That he will respond, and that rising standards of living will exercise the needed control over the growth of population, so that improvement in the quality of life will be as conspicuous a characteristic of the future as has been growth in wealth and numbers of the recent past, are beliefs shared by the majority of economists.

§ 371. The trend of wage and interest rates and of rent

in future years cannot safely be predicted from their trend in the past. All that can be said is that if present tendencies continue to operate, certain results will follow. If the progress in production that may be confidently predicted continues to be accompanied by a gradual rise in the standards of living of the working classes, there must be a steady increase in wages. One effect of such an increase will be a larger and larger accumulation of capital on the part of wage-earners themselves and this, added to the capital accumulated by other classes, will have a tendency to reduce the rate of interest. There is little reason, however, for expecting anything more than a very gradual fall in interest, or that the rate will be lowered to nothing within many decades or even centuries. Opposed to such a result are the discoveries of ever new uses for capital goods that are certain to be made, and the lessened rate of accumulation on the part of capitalists that may be expected as their incomes from capital, in consequence of the decline in interest itself, become smaller. The future course of rent will depend upon the relation between the growth of population and the progress that is made in utilizing to better advantage the world's natural resources. The aggregate rent fund is certain to increase as it has in the past, as the area of the earth's surface turned to economic account increases. This may not, however, involve any marked lowering in the margin of cultivation any more than has the progress of the last one hundred years.

Probable Course of Wages, Interest and Rent in the Future.

To predict whether the above changes, which may be said to be in progress at the present time, will continue uninterruptedly is beyond the power of economic science. As in the past, so in the future, new conditions and new forces are likely to present themselves, which will cause the anticipations of present-day economists to seem as baseless as many of those of the economists of the past have already been proven to have been.

§ 372. The impression almost necessarily left upon the mind by a treatise on economics is of a somewhat hard and material view of life. In concentrating attention upon goods and the gratifications which result from them, the economist

Economic Progress and the Moral Elevation of the Race.

seems to ignore religion, the family affections and other things that are, to say the least, fully as important. Excuses that may be urged in his behalf readily suggest themselves. He may not justly be accused of ignoring religion and the family affections because he has little to say of them. Like other specialists, he must confine himself rigidly to his particular subject if he is to contribute anything of value to the sum of human knowledge. But the charge is not so easily answered. Economists profess to concern themselves with the conditions upon which human well-being depends. They talk of gratifications, of pleasures and pains, of progress. Can they have anything *final* to say on these subjects when they pass over the very experiences which, in the opinion of so many persons, make life most worth living? It must freely be confessed that they cannot. Basing their conclusions on a study of the economic side of life, they can claim finality for them only as respects economic relations. The gratifications they discuss are gratifications connected with goods or with the activities necessary to the production of goods. Whether an increase in these gratifications really contributes to the moral elevation of the race is a problem that can be decided only by reference to broader considerations than fall properly within the field of economics. An economist may, nevertheless, be pardoned a closing word touching this vital matter.

True Goal of Economic Progress.

Economic progress is something more than a progressive advance toward a state of society in which all individuals will be abundantly supplied with goods. It includes improvements in human activities as well as an increase in the gratifications connected with consumption. Economically speaking, it is quite as important to get rid of the pains of production as to add to the pleasures of consumption. The economist's ideal is thus a world in which wants and the activities of production are so harmoniously adjusted to each other that the field of industry offers full scope to all for the exercise of those faculties and capacities from which they get the greatest benefit and happiness, at the same time that it rewards all with the goods which they most require. Up to the present time progress has been mainly in the direction of adding to goods. It is necessary to raise consumption to a certain standard be-

fore it can be appreciated that additional comforts and luxuries are too dearly bought at the price of uncongenial toil, and before due attention can be attracted to the other line of development. When this standard is reached, however, the choice of occupations will begin to be made with greater reference to the tastes of individuals as producers, and with less regard to their need for goods as consumers. Progress from this point forward will be toward more and more congenial work for all rather than toward a further multiplication of goods. If contemporary economic discussions seem to over-emphasize the importance of goods, or wealth, and to give too little heed to worthy and ennobling activities, it is not because this is an essential characteristic of economics, but because it is still true that the mass of men are all too poorly supplied with goods, and that for them the economic problem of most pressing concern is how this deficiency may be relieved. For the middle and upper classes in the economic scale deficiency of goods has already ceased to be a ground for anxiety. The real economic evil for them is deficiency in congenial and self-developing pursuits, and the economist may unite with the moralist in urging, in their case, less concern about material comforts and more concern about the manner in which they pass their days.

Conclusion.

Economic progress is by no means the end of life, but, conceived in a broad way, it is fundamental to all progress. A certain control over material goods is essential to appreciation of all higher goods. Given control over the necessaries and comforts indispensable to well-rounded existence, the next step is to find work which will afford scope for one's highest faculties. This quest, which is also largely economic, accords with the highest aspirations of the human spirit. For persons with artistic imagination and the creative faculty it will mean the choice of artistic professions or crafts; for those with scientific curiosity and the love of study it will mean the selection of scientific pursuits; finally, for the great mass of men, who are now, and probably will continue to be, neither artists nor scientists by nature, it will mean the choice of those occupations which will enable them, while providing for their own needs, to minister most largely to the wants of

others and in this way to gratify most fully their social natures. For, if men are now self-seeking in a narrow sense, it is because the hard struggle for existence to which they have owed their development in the past has made them so. As goods become more plentiful, the larger social self, which already directs the lives of so many so-called unselfish persons, will become dominant. Its gratification will demand a constant ministering to the wants of others, just as the gratification of the narrower self of the average man now demands constant attention to personal wants and the wants of the family. Thus, if the study of economics seems to involve a hard and material view of life, it is because we still live in a hard and material age. The economist's ideal is not only not opposed to the moral elevation of the race, but it includes that elevation as one of its essential elements. It is his confident expectation that men will grow better as the conditions of their economic life become pleasanter; and his belief that they are destined to grow better in no other way is what gives its chief interest to his subject.

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